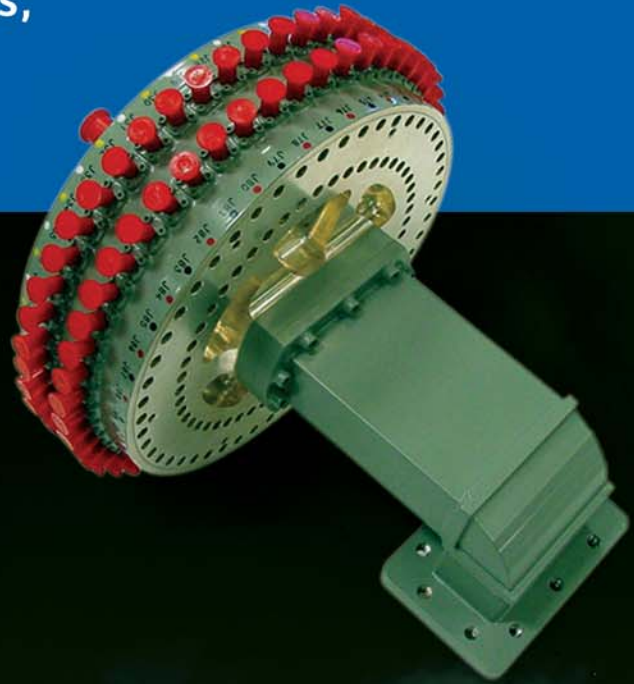


# RF & Microwave Products from 30 kHz to 65 GHz

GaAs FET Microwave Amplifiers & Sub-Assemblies,  
Radial Power Combiners/Dividers,  
Space Qualified Components,  
Environmental Testing Services





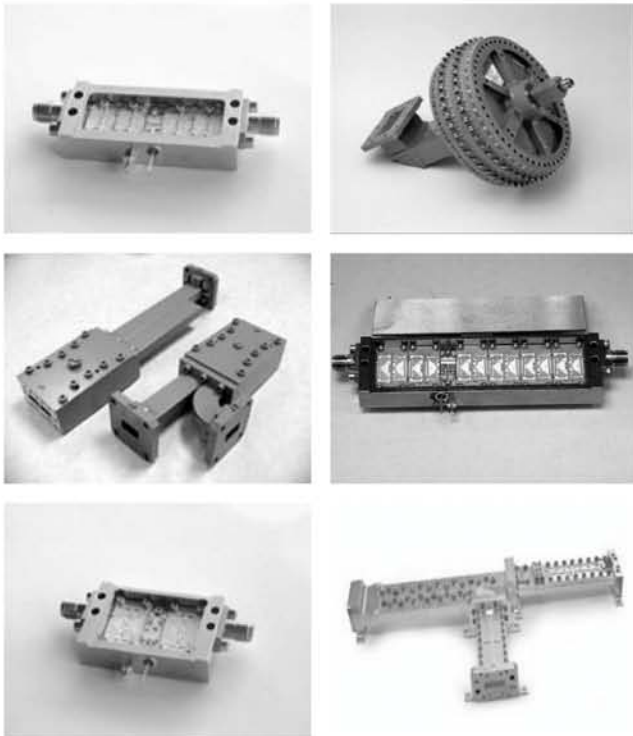
## THE CIAO WIRELESS COMMITMENT

Ciao Wireless Inc., founded in February, 2003, is dedicated to serving the RF & Microwave Community in the **design and manufacture of RF & Microwave Thin-Film Hybrid Amplifiers, Radial Power Combiners-Dividers and Space Qualified Filters and Passive Components**. We are committed in providing the **Highest Performance** designs at an **Exceptional Value** without sacrificing **Quality and Reliability**.

To accomplish this, Ciao has established **proven control policies and procedures** for each operation, from Manufacturing and Test to Customer Service and Engineering Standards, that meet and even **exceed MIL-STD and NASA requirements**; ensuring quality and reliability in accordance with **meeting the intent of ISO-9000 standards**.

Ciao Wireless is **customer focused** and **committed to Optimizing Designs** for maximum RF performance and minimum sensitivity to manufacturing and environmental tolerances, **Continual Product Improvement and Enhancements**, as well as working closely with the customer and **Responding Promptly to Changing Customer Requirements**.

Our **Management Team** is made up of specialists in Design and Application Engineering, Sales/Marketing and Customer Service, Manufacturing and Operations and Reliability, with **over 100 man-years of Experience**.



## PRODUCT CAPABILITIES

Ciao Wireless' **microwave integrated circuit (MIC)** amplifier designs are manufactured utilizing the latest in **GaAs FET MIC Technology**. As all designs are **Thin-Film Hybrids**, (Chip and Wire), Ciao is able to easily "Customize" any catalog model or design to meet a customer's particular requirement within the frequency range of **30 kHz to 30 GHz**.

Ciao utilizes a modular "building-block" technique that allows any number of gain stages to be effectively cascaded within a single package. This standard manufacturing process allows for efficient fabrication of a catalog or "custom" RF Amplifier, ensuring **optimum performance and lower costs**, with **reduced delivery** and little or **no special development**. Because of the volume of amplifiers manufactured by Ciao Wireless, Ciao has been able to form **close working relationships** with the leading semiconductor manufacturers, allowing for fast response with the most **state-of-the-art performance** available to Ciao's disposal. All of Ciao's RF & Microwave Amplifiers are designed and manufactured in accordance with meeting Military and Hi-Rel requirements, regardless of being utilized in a commercial or non-screened application.

In addition to its GaAs FET Amplifier operations, Ciao Wireless also specializes in the design and manufacture of **Radial Power Combiners and Dividers (RPC/RPD)** for High Power Transmitters, Radars and Amplifier Systems. Ciao's innovative Radial techniques, allow for High-Power Handling **capability up to 80 kW** (N-Way Dependent), with **low insertion loss** (0.20 dB typ) and are highly **phase and amplitude stable** (2.0 Deg RMS/0.25 dB RMS). By utilizing Radial Power Combining and Dividing techniques, customers are able to attain ultra-high power levels with Solid State Components; **increasing reliability and reducing costs and development cycles**.

Ciao Wireless, through the acquisition of Microwave Communications Corporation Inc's (MCCI) Space-Hi-Rel Filter Operations and Environmental Testing Laboratory, is pleased to be able to offer **Passive Components for Spaceborne applications**. Ciao supports custom designs for **Filters, Hybrids, Couplers, and Multiplexers, up to 65 GHz**, with years of **Space Heritage and Qualified Designs**. Ciao maintains an **In-House Environmental Testing Laboratory**, with Thermal Vacuum, Vibration, Shock, Thermal Shock among others offered, in order to save the customer valuable time and money. Ciao also **contracts out its Environmental Testing Laboratory Services** to outside companies that wish to conduct Environmental Testing on their own systems and components.



## FACILITIES

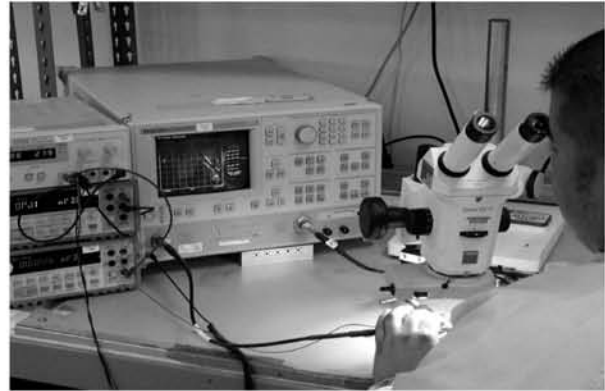
All of Ciao Wireless' operations are located within a single **modern and fully equipped 42,000 square foot facility**, in Camarillo, CA, about 1 hour north of Los Angeles. This facility provides Ciao with ample room for expansion. **All processes** critical to superior electrical and reliability performance and shortest possible delivery times **are controlled in-house**.

**Ciao Wireless maintains a Government Clearance** for the support of Classified Programs, with multiple personnel of all skill sets maintaining individual security clearances in order to ensure that all of the customers requirements are met.



## DESIGN CAPABILITIES

All **designs are developed using computer aided design** and drafting (CADD) techniques. Proprietary software along with other common programs are utilized to enhance the modeling process. Circuit modeling is based on a detailed understanding of each electrical and mechanical parameter and is **then confirmed in lab tests**. Mechanical packaging techniques are based upon the over 100 man-years of experience the staff of Ciao Wireless has attained, and are widely accepted by the industry.



## MANUFACTURING CAPABILITIES

Ciao Wireless' **manufacturing facilities** have been established utilizing state-of-the-art technology for the manufacture of MIC hardware that **meets the strict visual and screening requirements of MIL-STD-883**. Total process control is fundamental to Ciao's success in meeting these requirements. **All process steps are completely documented** and include the necessary controls to ensure that the best results are realized.

Our fully equipped Manufacturing Lab includes:

- Thermo-Compression Wire Bonding
- Semi-Automatic Wedge and Ball Bonding
- Micro-Welding
- Eutectic Attach
- Resistance Welding and NASA Certified Welding
- In-House Machine Shop with Full-Time Machinist

## TEST LAB AND EQUIPMENT

Ciao Wireless maintains an extensive inventory of microwave, mechanical, and electronic test equipment. Equipment includes multiple Vector Network Analyzers (VNA), Network Analyzers, Scalar Analyzers, Power Supplies, Sweepers, Signal Generators, Oscilloscopes, Digital Noise Test Meters, Sources, as well other specialized test equipment, associated with GaAs FET Amplifiers, Filters, Pre-Amplifiers, Modules, Radial Power Combiners/Dividers, and Space Qualified Components.





## QUALITY ASSURANCE

Since being founded, Ciao Wireless has been supplying the Defense and Military community with state-of-the-art microwave amplifiers, radial power combiners/dividers, and filters for space applications. From the beginning, the company has been **committed to superior quality** in the products it delivers. This commitment has been supported not only philosophically but also with the capital commitments necessary to ensure that **the best available tools, facilities, and techniques are being employed** in the manufacture and test of all products.



Although Ciao's Quality Assurance Program is designed to be flexible to meet customer program requirements, **Ciao has defined a baseline of inspection and screening criterion** that ensures that all products will meet the most stringent military aerospace and commercial requirements.

Ciao's commitment to furnish products considered to be "best-in-class" begins with a comprehensive Quality System that meets the intent of ISO-9000 Standards. Ciao's Quality Assurance organization is chartered to maintain **MIL-I-45208A and MIL-Q-9858** (as required) **quality standards**.

**All of Ciao's products are manufactured using processes that are tightly controlled through the requirements of MIL-STD-883B** and NASA soldering and assembly techniques, as required. Units are assembled and tested in a class 100,000 clean room, with a class 10,000 bench area available for Space Components. The environmental conditions are regularly monitored and certified to ensure product quality. Inspection criteria as defined by MIL-STD-38510 and MIL-STD-883B are strictly adhered to.

Test and measurement equipment maintenance and calibration is performed in accordance with MIL-STD-45662A and fully traceable to all NIST/ANSI standards.

**Ciao performs 100% Unconditional Stability Testing on all amplifiers manufactured and shipped.**

A formal **Electrostatic Discharge (ESD) Control Program in accordance with MIL-STD-1686C** is in place with all employees receiving formal training and re-certification as required.

Ciao performs **100% inspection on all received materials**. Vendors and materials are continuously evaluated to ensure compliance to set quality standards. Overall vendor performance ratings are maintained with this information, with only qualified vendors utilized.

## ENVIRONMENTAL TESTING FACILITY

Ciao maintains a **fully functional Environmental Stress Screening Laboratory within its facility**, to ensure further product quality and facilitate throughput of screened product for the customer. Internal capabilities include:

- **Vibration Random & Sine**
- **Mechanical Shock**
- **Thermal Cycle & Thermal Shock**
- **Burn-In & Life Testing**
- **Thermal Vacuum & Multipaction Corona Testing (High Power)**



When not being used to support internal requirements, **Ciao Wireless contracts out to the general public, its environmental testing services**. Ciao offers competitive rates and is very flexible in handling "rush" jobs when customers have a tight deadline.

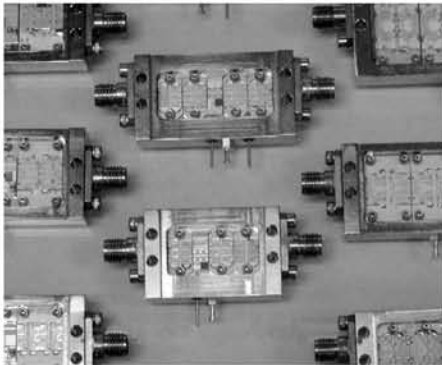




## RF & MICROWAVE AMPLIFIERS DESIGN TECHNIQUES

Ciao Wireless, Inc., features a comprehensive product line of RF & Microwave GaAs FET Amplifiers, covering the frequency spectrum of 30 kHz to 30 GHz. Manufactured with Thin-Film Hybrid MIC construction, optimum reliability and superior performance can be guaranteed on all Ciao Wireless designs.

Ciao primarily utilizes two different circuit design techniques in its amplifier product line, **Balanced Circuitry** and **Single-Ended Circuits**.



A Balanced Circuit design utilizes Lange Couplers at the input and output of each stage to feed two discrete transistors. By utilizing 90-degree hybrids at the input and output of each stage and by having two FET devices per stage, advantages such as improved return loss, increased output power performance, and ease of cascading multiple stages without inter-stage matching issues, are realized. Balanced Circuits are typically used for Ciao's Octave, Multi-Octave and Broadband units.

Single Ended design architecture uses a single transistor per stage with either series or parallel feedback designs to facilitate matching the amplifiers' impedance to 50 ohms. Series feedback is commonly referred to as "loss-less feedback" as no additional contributions are realized as a result of "lossy" circuits being added to the input of the FET. This approach, while difficult to optimize for return loss, permits Ciao Wireless to realize the lowest noise figures possible, and are normally used over Ciao's narrow band amplifiers designs.

All models feature integral voltage regulators, that make performance insensitive to supply voltage variations over a nominal +12 to +20 Volt DC voltage variation, with reverse polarity protection built-in.

**Ciao Wireless is able to "customize" most designs in order to meet a customer's particular requirement, and in many cases, without having to sacrifice the competitive catalog pricing and delivery of Ciao's products.**

## GENERAL AMPLIFIER CONSIDERATIONS

Listed specifications are guaranteed at room temperature (+23C) case temperature. However, all designs will operate over the -54C to +85C temperature range with some degradation to performance. Please contact the factory for specific temperature performance characteristics by model. General thermal considerations are as follows:

- **Gain:** Gain of a typical GaAs FET amplifier that does not include special compensation circuitry decreases as operating temperature is increased. Over the temperature range of -54C to +75C, the temperature coefficient of an uncompensated amplifier is approximately **-0.012 dB / Deg C / Stage**. This coefficient normally increases above +75C. Feedback stabilized GaAs FET amplifiers typically have a temperature coefficient of approximately **-0.005 dB / Deg C / Stage**. Temperature Compensation can provide stable gain performance over a wide operating temperature range. Improvements between 2 and ten times can be obtained, depending upon amplifier type, temperature range, gain, and bandwidth.
- **1 dB Compression Point:** An amplifier's power output capability varies inversely with operating temperature. The 1 dB gain compression point will decrease by roughly 0.01 dB / Deg C as the temperature is increased in the -54C to +75C range.
- **Noise Figure:** A typical amplifier's noise figure will increase by roughly 0.01 dB / Deg C with as the temperature is increased from -54C to +75C. For amplifiers with extremely low noise, the noise temperature will increase by a ratio that is approximately proportional to the ratio of the absolute temperatures expressed in degrees Kelvin (Deg K).
- **Heat Sinks:** All of Ciao's amplifiers must be properly heat sinked, such that the case to ambient heat rise is no greater than +10 to +15 Deg C. The maximum operating case temp for Ciao's standard amplifiers is +85C, unless otherwise stated.

While all models are manufactured to operate within a rugged Military Environment, the factory should be consulted for specific environmental operating conditions. Ciao's standard manufacturing process is in accordance with MIL-STD-883B standards, and **all units are subjected to Thermal Cycle, Burn-In, and Gross Leak Testing**. Upon request, all models can be fully screened in compliance with the complete ESS requirements of MIL-STD-883B, method 5008. Contact Ciao with any special testing requirements or for more information on Ciao's standard process flows.



**OCTAVE BAND & HALF OCTAVE BAND AMPLIFIERS: 1.0 - 2.0 GHz & 2.0 - 4.0GHz:**

Octave Band  
1.0-2.0 GHz

Octave Band  
2.0-4.0 GHz

Model Number	Frequency Range GHz	Gain dB (min)	Noise dB (max)	Gain Flatness +/-dB	P-1dB dBm (min)	IP3 dBm (typ)	VSWR In/Out (max)	+15 VDC Current mA (typ)	Package Type
<b>Octave Band Amplifiers: 1.0 to 2.0 GHz</b>									
CA12-100	1.0 - 2.0	13	2.0	+/- 1.0	+10	+20	2.0:1	60	LCFB1
CA12-101	1.0 - 2.0	13	2.0	+/- 1.0	+13	+23	2.0:1	75	LCFB1
CA12-102	1.0 - 2.0	12	2.2	+/- 1.0	+15	+25	2.0:1	90	LCFB1
CA12-103	1.0 - 2.0	11	2.2	+/- 1.0	+17	+27	2.0:1	120	LCFB1
CA12-104	1.0 - 2.0	11	2.5	+/- 1.0	+20	+30	2.0:1	180	LCFB1
CA12-105	1.0 - 2.0	10	3.0	+/- 1.0	+23	+33	2.0:1	235	LCFB1
CA12-200	1.0 - 2.0	26	1.3	+/- 1.0	+10	+20	2.0:1	90	LCFB1
CA12-201	1.0 - 2.0	26	1.5	+/- 1.0	+13	+23	2.0:1	100	LCFB1
CA12-202	1.0 - 2.0	24	1.5	+/- 1.0	+15	+25	2.0:1	120	LCFB1
CA12-203	1.0 - 2.0	22	1.8	+/- 1.0	+17	+27	2.0:1	150	LCFB1
CA12-204	1.0 - 2.0	22	2.0	+/- 1.0	+20	+30	2.0:1	200	LCFB1
CA12-205	1.0 - 2.0	20	2.5	+/- 1.0	+23	+33	2.0:1	250	LCFB1
CA12-206	1.0 - 2.0	19	3.0	+/- 1.0	+27	+35	2.0:1	300	LCFB1
CA12-300	1.0 - 2.0	34	1.3	+/- 1.0	+10	+20	2.0:1	120	FB2
CA12-301	1.0 - 2.0	34	1.5	+/- 1.0	+13	+23	2.0:1	150	FB2
CA12-302	1.0 - 2.0	33	1.5	+/- 1.0	+15	+25	2.0:1	175	FB2
CA12-303	1.0 - 2.0	33	1.8	+/- 1.0	+17	+27	2.0:1	200	FB2
CA12-304	1.0 - 2.0	32	2.0	+/- 1.0	+20	+30	2.0:1	225	FB2
CA12-305	1.0 - 2.0	30	2.5	+/- 1.0	+23	+33	2.0:1	300	FB2
CA12-306	1.0 - 2.0	29	3.0	+/- 1.0	+27	+35	2.0:1	385	FB2
CA12-400	1.0 - 2.0	44	1.3	+/- 1.0	+10	+20	2.0:1	160	FB2
CA12-401	1.0 - 2.0	44	1.5	+/- 1.0	+13	+23	2.0:1	200	FB2
CA12-402	1.0 - 2.0	43	1.5	+/- 1.0	+15	+25	2.0:1	235	FB2
CA12-403	1.0 - 2.0	43	1.8	+/- 1.0	+17	+27	2.0:1	280	FB2
CA12-404	1.0 - 2.0	42	2.0	+/- 1.0	+20	+30	2.0:1	315	FB2
CA12-405	1.0 - 2.0	40	2.5	+/- 1.0	+23	+33	2.0:1	385	FB2
CA12-406	1.0 - 2.0	39	3.0	+/- 1.0	+27	+35	2.0:1	450	FB2
<b>Octave Band Amplifiers: 2.0 to 4.0 GHz</b>									
CA24-100	2.0 - 4.0	16	2.0	+/- 1.0	+10	+20	2.0:1	60	C2
CA24-101	2.0 - 4.0	16	2.0	+/- 1.0	+13	+23	2.0:1	75	C2
CA24-102	2.0 - 4.0	16	2.0	+/- 1.0	+15	+25	2.0:1	90	C2
CA24-103	2.0 - 4.0	15	2.2	+/- 1.0	+17	+27	2.0:1	120	C2
CA24-104	2.0 - 4.0	13	2.5	+/- 1.0	+20	+30	2.0:1	180	C2
CA24-105	2.0 - 4.0	11	2.8	+/- 1.0	+23	+33	2.0:1	235	C2
CA24-106	2.0 - 4.0	10	3.0	+/- 1.5	+27	+35	2.0:1	300	C2
CA24-200	2.0 - 4.0	28	1.8	+/- 1.0	+10	+20	2.0:1	90	C2
CA24-201	2.0 - 4.0	28	2.0	+/- 1.0	+13	+23	2.0:1	100	C2
CA24-202	2.0 - 4.0	28	2.0	+/- 1.0	+15	+25	2.0:1	125	C2
CA24-203	2.0 - 4.0	27	2.2	+/- 1.0	+17	+27	2.0:1	150	C2
CA24-204	2.0 - 4.0	26	2.5	+/- 1.0	+20	+30	2.0:1	200	C2
CA24-205	2.0 - 4.0	26	2.8	+/- 1.0	+23	+33	2.0:1	300	C2
CA24-206	2.0 - 4.0	25	3.0	+/- 1.5	+27	+35	2.0:1	450	C2
CA24-207	2.0 - 4.0	22	4.0	+/- 1.5	+30	+38	2.0:1	600	C2
CA24-300	2.0 - 4.0	38	1.8	+/- 1.0	+10	+20	2.0:1	120	C3
CA24-301	2.0 - 4.0	36	2.0	+/- 1.0	+13	+23	2.0:1	150	C3
CA24-302	2.0 - 4.0	36	2.0	+/- 1.0	+15	+25	2.0:1	185	C3
CA24-303	2.0 - 4.0	34	2.2	+/- 1.0	+17	+27	2.0:1	225	C3
CA24-304	2.0 - 4.0	33	2.5	+/- 1.0	+20	+30	2.0:1	260	C3
CA24-305	2.0 - 4.0	33	2.8	+/- 1.0	+23	+33	2.0:1	350	C3
CA24-306	2.0 - 4.0	32	3.0	+/- 1.5	+27	+35	2.0:1	500	C3
CA24-307	2.0 - 4.0	29	4.0	+/- 1.5	+30	+38	2.0:1	650	C3
CA24-400	2.0 - 4.0	45	1.8	+/- 1.0	+10	+20	2.0:1	160	C4
CA24-401	2.0 - 4.0	44	2.0	+/- 1.0	+13	+23	2.0:1	200	C4
CA24-402	2.0 - 4.0	44	2.0	+/- 1.0	+15	+25	2.0:1	235	C4
CA24-403	2.0 - 4.0	42	2.2	+/- 1.0	+17	+27	2.0:1	275	C4
CA24-404	2.0 - 4.0	41	2.5	+/- 1.0	+20	+30	2.0:1	335	C4
CA24-405	2.0 - 4.0	40	2.8	+/- 1.0	+23	+33	2.0:1	400	C4
CA24-406	2.0 - 4.0	38	3.0	+/- 1.5	+27	+35	2.0:1	550	C4
CA24-407	2.0 - 4.0	35	4.0	+/- 1.5	+30	+38	2.0:1	700	C4

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.



**OCTAVE BAND AMPLIFIERS/HALF-OCTAVE BAND AMPLIFIERS: 4.0 - 8.0 GHz & 8.0 - 12.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise dB (max)	Gain Flatness +/-dB	P-1dB dBm (min)	IP3 dBm (typ)	VSWR In/Out (max)	+15 VDC Current mA (typ)	Package Type
<b>Octave Band Amplifiers: 4.0 to 8.0 GHz</b>									
CA48-100	4.0 - 8.0	12	2.2	+/- 1.0	+10	+20	2.0:1	60	C2
CA48-101	4.0 - 8.0	13	3.0	+/- 1.0	+13	+23	2.0:1	75	C2
CA48-102	4.0 - 8.0	12	3.0	+/- 1.0	+15	+25	2.0:1	90	C2
CA48-103	4.0 - 8.0	11	4.0	+/- 1.0	+17	+27	2.0:1	120	C2
CA48-104	4.0 - 8.0	10	4.5	+/- 1.0	+20	+30	2.0:1	180	C2
CA48-105	4.0 - 8.0	10	5.0	+/- 1.0	+23	+33	2.0:1	235	C2
CA48-200	4.0 - 8.0	24	2.0	+/- 1.0	+10	+20	2.0:1	100	C2
CA48-201	4.0 - 8.0	26	2.0	+/- 1.0	+13	+23	2.0:1	100	C2
CA48-202	4.0 - 8.0	26	2.2	+/- 1.0	+15	+25	2.0:1	125	C2
CA48-203	4.0 - 8.0	25	2.5	+/- 1.0	+17	+27	2.0:1	150	C2
CA48-204	4.0 - 8.0	25	2.8	+/- 1.0	+20	+30	2.0:1	200	C2
CA48-205	4.0 - 8.0	25	3.0	+/- 1.0	+23	+33	2.0:1	300	C2
CA48-206	4.0 - 8.0	24	3.5	+/- 1.0	+27	+35	2.0:1	435	C2
CA48-300	4.0 - 8.0	34	2.0	+/- 1.0	+10	+20	2.0:1	140	C3
CA48-301	4.0 - 8.0	35	2.0	+/- 1.0	+13	+23	2.0:1	150	C3
CA48-302	4.0 - 8.0	35	2.2	+/- 1.0	+15	+25	2.0:1	185	C3
CA48-303	4.0 - 8.0	34	2.5	+/- 1.0	+17	+27	2.0:1	225	C3
CA48-304	4.0 - 8.0	34	2.8	+/- 1.0	+20	+30	2.0:1	260	C3
CA48-305	4.0 - 8.0	33	3.0	+/- 1.0	+23	+33	2.0:1	350	C3
CA48-306	4.0 - 8.0	32	3.5	+/- 1.0	+27	+35	2.0:1	485	C3
CA48-400	4.0 - 8.0	44	2.0	+/- 1.0	+10	+20	2.0:1	180	C4
CA48-401	4.0 - 8.0	43	2.0	+/- 1.0	+13	+23	2.0:1	200	C4
CA48-402	4.0 - 8.0	42	2.2	+/- 1.0	+15	+25	2.0:1	235	C4
CA48-403	4.0 - 8.0	41	2.5	+/- 1.0	+17	+27	2.0:1	275	C4
CA48-404	4.0 - 8.0	41	2.8	+/- 1.0	+20	+30	2.0:1	335	C4
CA48-405	4.0 - 8.0	40	3.0	+/- 1.0	+23	+33	2.0:1	400	C4
CA48-406	4.0 - 8.0	39	3.5	+/- 1.0	+27	+35	2.0:1	525	C4
<b>Half Octave Band Amplifiers: 8.0 to 12.0 GHz</b>									
CA812-100	8.0 - 12.0	10	3.0	+/- 1.0	+10	+20	2.0:1	60	XK2
CA812-101	8.0 - 12.0	12	3.5	+/- 1.0	+13	+23	2.0:1	60	XK2
CA812-102	8.0 - 12.0	11	4.0	+/- 1.0	+15	+25	2.0:1	100	XK2
CA812-103	8.0 - 12.0	10	4.5	+/- 1.0	+17	+27	2.0:1	160	XK2
CA812-104	8.0 - 12.0	10	5.0	+/- 1.0	+20	+30	2.0:1	200	XK2
CA812-200	8.0 - 12.0	21	2.5	+/- 1.0	+10	+20	2.0:1	90	XK2
CA812-201	8.0 - 12.0	24	2.5	+/- 1.0	+13	+23	2.0:1	100	XK2
CA812-202	8.0 - 12.0	23	2.7	+/- 1.0	+15	+25	2.0:1	125	XK2
CA812-203	8.0 - 12.0	22	2.8	+/- 1.0	+17	+27	2.0:1	150	XK2
CA812-204	8.0 - 12.0	20	3.0	+/- 1.0	+20	+30	2.0:1	200	XK2
CA812-205	8.0 - 12.0	19	3.5	+/- 1.0	+23	+33	2.0:1	325	XK2
CA812-206	8.0 - 12.0	16	4.5	+/- 1.0	+27	+35	2.0:1	480	XK2
CA812-207	8.0 - 12.0	15	6.0	+/- 1.5	+30	+38	2.0:1	750	Special
CA812-300	8.0 - 12.0	32	2.5	+/- 1.0	+10	+20	2.0:1	130	XK2
CA812-301	8.0 - 12.0	33	2.5	+/- 1.0	+13	+23	2.0:1	150	XK2
CA812-302	8.0 - 12.0	32	2.7	+/- 1.0	+15	+25	2.0:1	180	XK2
CA812-303	8.0 - 12.0	31	2.8	+/- 1.0	+17	+27	2.0:1	225	XK2
CA812-304	8.0 - 12.0	30	3.0	+/- 1.0	+20	+30	2.0:1	275	XK2
CA812-305	8.0 - 12.0	28	3.5	+/- 1.0	+23	+33	2.0:1	400	XK2
CA812-306	8.0 - 12.0	25	4.5	+/- 1.0	+27	+35	2.0:1	550	XK2
CA812-307	8.0 - 12.0	22	6.0	+/- 1.5	+30	+38	2.0:1	850	Special
CA812-400	8.0 - 12.0	42	2.5	+/- 1.0	+10	+20	2.0:1	175	XK3
CA812-401	8.0 - 12.0	42	2.5	+/- 1.0	+13	+23	2.0:1	275	XK3
CA812-402	8.0 - 12.0	41	2.7	+/- 1.0	+15	+25	2.0:1	325	XK3
CA812-403	8.0 - 12.0	40	2.8	+/- 1.0	+17	+27	2.0:1	375	XK3
CA812-404	8.0 - 12.0	38	3.0	+/- 1.0	+20	+30	2.0:1	425	XK3
CA812-405	8.0 - 12.0	37	3.5	+/- 1.0	+23	+33	2.0:1	550	XK3
CA812-406	8.0 - 12.0	34	4.5	+/- 1.0	+27	+35	2.0:1	700	XK3
CA812-407	8.0 - 12.0	30	6.0	+/- 1.5	+30	+38	2.0:1	1100	Special

Octave Band  
4.0-8.0 GHz

Half Octave Band  
8.0-12.0 GHz

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.



**OCTAVE BAND & HALF OCTAVE BAND AMPLIFIERS: 12.0 - 18.0 GHz, 10.0 - 20.0 GHz, 12.0 - 24.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise dB (max)	Gain Flatness +/-dB	P-1dB dBm (min)	IP3 dBm (typ)	VSWR In/Out (max)	+15 VDC Current mA (typ)	Package Type
<b>Half Octave Band Amplifiers: 12.0 to 18.0 GHz</b>									
CA1218-300	12.0 - 18.0	16	4.0	+/- 1.0	+10	+20	2.0:1	150	K3
CA1218-301	12.0 - 18.0	16	4.0	+/- 1.5	+13	+23	2.0:1	180	K3
CA1218-302	12.0 - 18.0	15	4.5	+/- 1.5	+15	+25	2.0:1	200	K3
CA1218-303	12.0 - 18.0	14	5.0	+/- 1.5	+17	+27	2.0:1	300	K3
CA1218-304	12.0 - 18.0	12	5.0	+/- 1.5	+20	+30	2.0:1	400	K3
CA1218-400	12.0 - 18.0	22	4.0	+/- 1.0	+10	+20	2.0:1	200	K4
CA1218-401	12.0 - 18.0	22	4.0	+/- 1.5	+13	+23	2.0:1	230	K4
CA1218-402	12.0 - 18.0	21	4.5	+/- 1.5	+15	+25	2.0:1	250	K4
CA1218-403	12.0 - 18.0	20	5.0	+/- 1.5	+17	+27	2.0:1	350	K4
CA1218-404	12.0 - 18.0	18	5.0	+/- 1.5	+20	+30	2.0:1	450	K4
CA1218-405	12.0 - 18.0	17	5.0	+/- 1.5	+23	+33	2.0:1	600	K4
CA1218-406	12.0 - 18.0	16	6.0	+/- 2.0	+27	+35	2.0:1	700	K4
CA1218-407	12.0 - 18.0	16	6.0	+/- 2.5	+30	+38	2.0:1	850	K4
CA1218-500	12.0 - 18.0	30	4.0	+/- 1.5	+10	+20	2.0:1	260	K6
CA1218-501	12.0 - 18.0	30	4.0	+/- 1.5	+13	+23	2.0:1	290	K6
CA1218-502	12.0 - 18.0	29	4.5	+/- 1.5	+15	+25	2.0:1	310	K6
CA1218-503	12.0 - 18.0	28	5.0	+/- 1.5	+17	+27	2.0:1	410	K6
CA1218-504	12.0 - 18.0	26	5.0	+/- 1.5	+20	+30	2.0:1	510	K6
CA1218-505	12.0 - 18.0	25	5.0	+/- 1.5	+23	+33	2.0:1	660	K6
CA1218-506	12.0 - 18.0	24	6.0	+/- 2.0	+27	+35	2.0:1	760	K6
CA1218-507	12.0 - 18.0	24	6.0	+/- 2.5	+30	+38	2.0:1	910	K6
CA1218-500	12.0 - 18.0	36	4.0	+/- 1.5	+10	+20	2.0:1	325	K6
CA1218-501	12.0 - 18.0	36	4.0	+/- 1.5	+13	+23	2.0:1	360	K6
CA1218-502	12.0 - 18.0	35	4.5	+/- 1.5	+15	+25	2.0:1	380	K6
CA1218-503	12.0 - 18.0	34	5.0	+/- 1.5	+17	+27	2.0:1	480	K6
CA1218-504	12.0 - 18.0	32	5.0	+/- 1.5	+20	+30	2.0:1	580	K6
CA1218-505	12.0 - 18.0	31	5.0	+/- 1.5	+23	+33	2.0:1	735	K6
CA1218-506	12.0 - 18.0	30	6.0	+/- 2.0	+27	+35	2.0:1	835	K6
CA1218-507	12.0 - 18.0	30	6.0	+/- 2.5	+30	+38	2.0:1	985	K6
<b>Octave Band Amplifiers: 10.0 to 20.0 GHz</b>									
CA1020-301	10.0 - 20.0	22	5.0	+/- 1.5	+10	+20	2.0:1	160	K3
CA1020-302	10.0 - 20.0	21	5.0	+/- 1.5	+13	+23	2.0:1	175	K3
CA1020-303	10.0 - 20.0	20	5.0	+/- 1.5	+15	+25	2.0:1	200	K3
CA1020-401	10.0 - 20.0	29	5.0	+/- 1.5	+10	+20	2.0:1	220	K4
CA1020-402	10.0 - 20.0	28	5.0	+/- 1.5	+13	+23	2.0:1	245	K4
CA1020-403	10.0 - 20.0	27	5.0	+/- 1.5	+15	+25	2.0:1	260	K4
CA1020-501	10.0 - 20.0	35	5.0	+/- 1.5	+10	+20	2.0:1	270	K6
CA1020-502	10.0 - 20.0	34	5.0	+/- 1.5	+13	+23	2.0:1	295	K6
CA1020-503	10.0 - 20.0	33	5.0	+/- 1.5	+15	+25	2.0:1	325	K6
<b>Octave Band Amplifiers: 12.0 to 24.0 GHz</b>									
CA1224-301	12.0 - 24.0	16	5.0	+/- 1.5	+10	+20	2.0:1	150	Q3
CA1224-302	12.0 - 24.0	16	5.0	+/- 1.5	+13	+23	2.0:1	175	Q3
CA1224-303	12.0 - 24.0	15	5.0	+/- 2.0	+15	+25	2.0:1	200	Q3
CA1224-307	12.0 - 24.0	16	3.8	+/- 2.0	+10	+20	2.0:1	150	Q3
CA1223-308	12.0 - 24.0	16	3.8	+/- 2.0	+13	+23	2.0:1	175	Q3
CA1224-401	12.0 - 24.0	22	5.0	+/- 1.5	+10	+20	2.0:1	200	Q4
CA1224-402	12.0 - 24.0	22	5.0	+/- 1.5	+13	+23	2.0:1	225	Q4
CA1224-403	12.0 - 24.0	21	5.0	+/- 2.0	+15	+25	2.0:1	250	Q4
CA1224-407	12.0 - 24.0	22	3.8	+/- 1.5	+10	+20	2.0:1	200	Q4
CA1224-408	12.0 - 24.0	22	3.8	+/- 1.5	+13	+23	2.0:1	225	Q4
CA1224-501	12.0 - 24.0	28	5.0	+/- 2.0	+10	+20	2.0:1	250	Q6
CA1224-502	12.0 - 24.0	28	5.0	+/- 2.0	+13	+23	2.0:1	275	Q6
CA1224-503	12.0 - 24.0	27	5.0	+/- 2.0	+15	+25	2.0:1	300	Q6
CA1224-507	12.0 - 24.0	28	3.8	+/- 2.0	+10	+20	2.0:1	250	Q6
CA1224-508	12.0 - 24.0	28	3.8	+/- 2.0	+13	+23	2.0:1	275	Q6

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Half Octave Band  
12.0-18.0 GHz

Octave Band  
10.0-20.0 GHz

Octave Band  
12.0-24.0 GHz



**LOW NOISE & MEDIUM POWER AMPLIFIERS, 200 MHZ BANDWIDTHS: 1.0 GHz to 3.1 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Low Noise Amplifiers (200 MHz Bandwidth): 1.0 to 1.2 GHz</b>									
CA12-2001	1.0 - 1.2	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2002	1.0 - 1.2	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2003	1.0 - 1.2	24	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2008	1.0 - 1.2	24	1.2	+/- 0.5	+15	+25	2.0:1	100	LCFB1
CA12-2010	1.0 - 1.2	23	1.4	+/- 0.5	+20	+30	2.0:1	150	LCFB1
CA12-2011	1.0 - 1.2	23	1.5	+/- 0.5	+23	+33	2.0:1	200	LCFB1
CA12-2012	1.0 - 1.2	22	1.8	+/- 0.5	+27	+35	2.0:1	450	LCFB1
CA12-2013	1.0 - 1.2	22	2.0	+/- 0.5	+30	+38	2.0:1	650	LCFB1
CA12-3001	1.0 - 1.2	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3002	1.0 - 1.2	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3003	1.0 - 1.2	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3008	1.0 - 1.2	32	1.2	+/- 0.5	+15	+25	2.0:1	140	FB2
CA12-3010	1.0 - 1.2	31	1.4	+/- 0.5	+20	+30	2.0:1	200	FB2
CA12-3011	1.0 - 1.2	31	1.5	+/- 0.5	+23	+33	2.0:1	250	FB2
CA12-3012	1.0 - 1.2	30	1.8	+/- 0.5	+27	+35	2.0:1	500	FB2
CA12-3013	1.0 - 1.2	30	2.0	+/- 0.5	+30	+38	2.0:1	750	FB2
<b>Low Noise Amplifiers (200 MHz Bandwidth): 1.4 to 1.6 GHz</b>									
CA12-2030	1.4 - 1.6	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2031	1.4 - 1.6	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2032	1.4 - 1.6	24	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2037	1.4 - 1.6	24	1.2	+/- 0.5	+15	+25	2.0:1	100	LCFB1
CA12-2039	1.4 - 1.6	23	1.4	+/- 0.5	+20	+30	2.0:1	150	LCFB1
CA12-2040	1.4 - 1.6	23	1.5	+/- 0.5	+23	+33	2.0:1	200	LCFB1
CA12-2041	1.4 - 1.6	22	1.8	+/- 0.5	+27	+35	2.0:1	450	LCFB1
CA12-2042	1.4 - 1.6	22	2.0	+/- 0.5	+30	+38	2.0:1	650	LCFB1
CA12-3030	1.4 - 1.6	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3031	1.4 - 1.6	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3032	1.4 - 1.6	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3037	1.4 - 1.6	32	1.2	+/- 0.5	+15	+25	2.0:1	140	FB2
CA12-3039	1.4 - 1.6	31	1.4	+/- 0.5	+20	+30	2.0:1	200	FB2
CA12-3040	1.4 - 1.6	31	1.5	+/- 0.5	+23	+33	2.0:1	250	FB2
CA12-3041	1.4 - 1.6	30	1.8	+/- 0.5	+27	+35	2.0:1	500	FB2
CA12-3042	1.4 - 1.6	30	2.0	+/- 0.5	+30	+38	2.0:1	750	FB2
<b>Low Noise Amplifiers (200 MHz Bandwidth): 1.7 to 1.9 GHz</b>									
CA12-2060	1.7 - 1.9	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2061	1.7 - 1.9	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2062	1.7 - 1.9	24	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2067	1.7 - 1.9	24	1.2	+/- 0.5	+15	+25	2.0:1	100	LCFB1
CA12-2069	1.7 - 1.9	23	1.4	+/- 0.5	+20	+30	2.0:1	150	LCFB1
CA12-2070	1.7 - 1.9	23	1.5	+/- 0.5	+23	+33	2.0:1	200	LCFB1
CA12-2071	1.7 - 1.9	22	1.8	+/- 0.5	+27	+35	2.0:1	450	LCFB1
CA12-2072	1.7 - 1.9	22	2.0	+/- 0.5	+30	+38	2.0:1	650	LCFB1
CA12-3060	1.7 - 1.9	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3061	1.7 - 1.9	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3062	1.7 - 1.9	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3067	1.7 - 1.9	32	1.2	+/- 0.5	+15	+25	2.0:1	140	FB2
CA12-3069	1.7 - 1.9	31	1.4	+/- 0.5	+20	+30	2.0:1	200	FB2
CA12-3070	1.7 - 1.9	31	1.5	+/- 0.5	+23	+33	2.0:1	250	FB2
CA12-3071	1.7 - 1.9	30	1.8	+/- 0.5	+27	+35	2.0:1	500	FB2
CA12-3072	1.7 - 1.9	30	2.0	+/- 0.5	+30	+38	2.0:1	750	FB2
<b>Low Noise Amplifiers (200 MHz Bandwidth): 1.8 to 2.0 GHz</b>									
CA12-2075	1.8 - 2.0	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2076	1.8 - 2.0	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2077	1.8 - 2.0	24	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2082	1.8 - 2.0	24	1.2	+/- 0.5	+15	+25	2.0:1	100	LCFB1
CA12-2084	1.8 - 2.0	23	1.4	+/- 0.5	+20	+30	2.0:1	150	LCFB1
CA12-2085	1.8 - 2.0	23	1.5	+/- 0.5	+23	+33	2.0:1	200	LCFB1
CA12-2086	1.8 - 2.0	22	1.8	+/- 0.5	+27	+35	2.0:1	450	LCFB1
CA12-2087	1.8 - 2.0	22	2.0	+/- 0.5	+30	+38	2.0:1	650	LCFB1
CA12-3075	1.8 - 2.0	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3076	1.8 - 2.0	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3077	1.8 - 2.0	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3082	1.8 - 2.0	32	1.2	+/- 0.5	+15	+25	2.0:1	140	FB2
CA12-3084	1.8 - 2.0	31	1.4	+/- 0.5	+20	+30	2.0:1	200	FB2
CA12-3085	1.8 - 2.0	31	1.5	+/- 0.5	+23	+33	2.0:1	250	FB2
CA12-3086	1.8 - 2.0	30	1.8	+/- 0.5	+27	+35	2.0:1	500	FB2
CA12-3087	1.8 - 2.0	30	2.0	+/- 0.5	+30	+38	2.0:1	750	FB2

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Low Noise  
1.0-1.2 GHz

Low Noise  
1.4-1.6 GHz

Low Noise  
1.7-1.9 GHz

Low Noise  
1.8-2.0 GHz



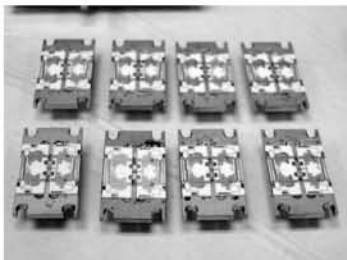
**LOW NOISE & MEDIUM POWER AMPLIFIERS, 200 MHZ BANDWIDTHS: 1.0 GHz to 3.1 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Low Noise Amplifiers (200 MHz Bandwidth):</b>					<b>2.2 to 2.4 GHz</b>				
CA23-2016	2.2 - 2.4	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2017	2.2 - 2.4	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2019	2.2 - 2.4	24	0.7	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2023	2.2 - 2.4	24	1.2	+/- 0.5	+15	+25	2.0:1	100	C2
CA23-2025	2.2 - 2.4	23	1.5	+/- 0.5	+20	+30	2.0:1	150	C2
CA23-2026	2.2 - 2.4	23	1.5	+/- 0.5	+23	+33	2.0:1	200	C2
CA23-2027	2.2 - 2.4	22	1.8	+/- 0.5	+27	+35	2.0:1	450	C2
CA23-2028	2.2 - 2.4	22	2.0	+/- 0.5	+30	+38	2.0:1	650	C2
CA23-3016	2.2 - 2.4	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3017	2.2 - 2.4	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3019	2.2 - 2.4	32	0.7	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3023	2.2 - 2.4	32	1.2	+/- 0.5	+15	+25	2.0:1	140	C3
CA23-3025	2.2 - 2.4	31	1.5	+/- 0.5	+20	+30	2.0:1	200	C3
CA23-3026	2.2 - 2.4	31	1.5	+/- 0.5	+23	+33	2.0:1	250	C3
CA23-3027	2.2 - 2.4	30	1.8	+/- 0.5	+27	+35	2.0:1	500	C3
CA23-3028	2.2 - 2.4	30	2.0	+/- 0.5	+30	+38	2.0:1	750	C3
<b>Low Noise Amplifiers (200 MHz Bandwidth):</b>					<b>2.7 to 2.9 GHz</b>				
CA23-2046	2.7 - 2.9	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2047	2.7 - 2.9	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2049	2.7 - 2.9	24	0.7	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2053	2.7 - 2.9	24	1.2	+/- 0.5	+15	+25	2.0:1	100	C2
CA23-2055	2.7 - 2.9	23	1.6	+/- 0.5	+20	+30	2.0:1	150	C2
CA23-2056	2.7 - 2.9	23	1.8	+/- 0.5	+23	+33	2.0:1	200	C2
CA23-2057	2.7 - 2.9	22	2.0	+/- 0.5	+27	+35	2.0:1	450	C2
CA23-2058	2.7 - 2.9	22	2.2	+/- 0.5	+30	+38	2.0:1	650	C2
CA23-3046	2.7 - 2.9	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3047	2.7 - 2.9	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3049	2.7 - 2.9	32	0.7	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3053	2.7 - 2.9	32	1.2	+/- 0.5	+15	+25	2.0:1	140	C3
CA23-3055	2.7 - 2.9	31	1.6	+/- 0.5	+20	+30	2.0:1	200	C3
CA23-3056	2.7 - 2.9	31	1.8	+/- 0.5	+23	+33	2.0:1	250	C3
CA23-3057	2.7 - 2.9	30	2.0	+/- 0.5	+27	+35	2.0:1	500	C3
CA23-3058	2.7 - 2.9	30	2.2	+/- 0.5	+30	+38	2.0:1	750	C3
<b>Low Noise Amplifiers (200 MHz Bandwidth):</b>					<b>2.9 to 3.1 GHz</b>				
CA23-2076	2.9 - 3.1	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2077	2.9 - 3.1	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2079	2.9 - 3.1	24	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-2083	2.9 - 3.1	24	1.2	+/- 0.5	+15	+25	2.0:1	100	C2
CA23-2085	2.9 - 3.1	23	1.6	+/- 0.5	+20	+30	2.0:1	150	C2
CA23-2086	2.9 - 3.1	23	1.8	+/- 0.5	+23	+33	2.0:1	200	C2
CA23-2087	2.9 - 3.1	22	2.0	+/- 0.5	+27	+35	2.0:1	450	C2
CA23-2088	2.9 - 3.1	22	2.2	+/- 0.5	+30	+38	2.0:1	650	C2
CA23-3076	2.9 - 3.1	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3077	2.9 - 3.1	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3079	2.9 - 3.1	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-3083	2.9 - 3.1	32	1.2	+/- 0.5	+15	+25	2.0:1	140	C3
CA23-3085	2.9 - 3.1	31	1.6	+/- 0.5	+20	+30	2.0:1	200	C3
CA23-3086	2.9 - 3.1	31	1.8	+/- 0.5	+23	+33	2.0:1	250	C3
CA23-3087	2.9 - 3.1	30	2.0	+/- 0.5	+27	+35	2.0:1	500	C3
CA23-3088	2.9 - 3.1	30	2.2	+/- 0.5	+30	+38	2.0:1	750	C3

Low Noise & Medium Power 2.2-2.4 GHz

Low Noise & Medium Power 2.7-2.9 GHz

Low Noise & Medium Power 2.9-3.1 GHz



All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.



**LOW NOISE & MEDIUM POWER AMPLIFIERS, 500 MHZ BANDWIDTHS: 1.0 GHz to 4.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Low Noise Amplifiers (500 MHz Bandwidth):</b>		<b>1.0 to 1.5 GHz</b>							
CA12-2090	1.0 - 1.5	24	1.6	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2092	1.0 - 1.5	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2093	1.0 - 1.5	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2097	1.0 - 1.5	23	1.5	+/- 0.5	+15	+25	2.0:1	100	LCFB1
CA12-2099	1.0 - 1.5	21	1.8	+/- 0.5	+20	+30	2.0:1	150	LCFB1
CA12-2101	1.0 - 1.5	21	2.0	+/- 0.5	+23	+33	2.0:1	200	LCFB1
CA12-2102	1.0 - 1.5	22	2.2	+/- 0.75	+27	+35	2.0:1	450	LCFB1
CA12-2103	1.0 - 1.5	22	2.5	+/- 0.75	+30	+38	2.0:1	650	LCFB1
CA12-3090	1.0 - 1.5	32	1.6	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3092	1.0 - 1.5	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3093	1.0 - 1.5	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-3097	1.0 - 1.5	32	1.5	+/- 0.5	+15	+25	2.0:1	140	FB2
CA12-3099	1.0 - 1.5	31	1.8	+/- 0.5	+20	+30	2.0:1	200	FB2
CA12-3101	1.0 - 1.5	30	2.0	+/- 0.5	+23	+33	2.0:1	250	FB2
CA12-3102	1.0 - 1.5	30	2.2	+/- 0.75	+27	+35	2.0:1	500	FB2
CA12-3103	1.0 - 1.5	30	2.5	+/- 0.75	+30	+38	2.0:1	750	FB2
<b>Low Noise Amplifiers (500 MHz Bandwidth):</b>		<b>1.5 to 2.0 GHz</b>							
CA12-2104	1.5 - 2.0	24	1.6	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2106	1.5 - 2.0	24	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2107	1.5 - 2.0	24	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-2111	1.5 - 2.0	23	1.5	+/- 0.5	+15	+25	2.0:1	100	LCFB1
CA12-2113	1.5 - 2.0	21	1.8	+/- 0.5	+20	+30	2.0:1	150	LCFB1
CA12-2114	1.5 - 2.0	21	2.0	+/- 0.5	+23	+33	2.0:1	200	LCFB1
CA12-2115	1.5 - 2.0	22	2.2	+/- 0.75	+27	+35	2.0:1	450	LCFB1
CA12-2116	1.5 - 2.0	22	2.5	+/- 0.75	+30	+38	2.0:1	650	LCFB1
CA12-3104	1.5 - 2.0	32	1.6	+/- 0.5	+10	+20	2.0:1	70	FB2
CA12-3106	1.5 - 2.0	32	1.2	+/- 0.5	+10	+20	2.0:1	70	FB2
CA12-3107	1.5 - 2.0	32	1.0	+/- 0.5	+10	+20	2.0:1	70	FB2
CA12-3111	1.5 - 2.0	32	1.5	+/- 0.5	+15	+25	2.0:1	110	FB2
CA12-3113	1.5 - 2.0	30	1.8	+/- 0.5	+20	+30	2.0:1	200	FB2
CA12-3114	1.5 - 2.0	30	2.0	+/- 0.5	+23	+33	2.0:1	250	FB2
CA12-3115	1.5 - 2.0	30	2.2	+/- 0.75	+27	+35	2.0:1	500	FB2
CA12-3116	1.5 - 2.0	30	2.5	+/- 0.75	+30	+38	2.0:1	750	FB2
<b>Low Noise Amplifiers (500 MHz Bandwidth):</b>		<b>2.0 to 2.5 GHz</b>							
CA23-2091	2.0 - 2.5	22	1.6	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-2093	2.0 - 2.5	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-2094	2.0 - 2.5	22	1.0	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-2098	2.0 - 2.5	22	1.5	+/- 0.5	+15	+25	2.0:1	100	C2
CA23-2101	2.0 - 2.5	21	1.5	+/- 0.5	+20	+30	2.0:1	150	C2
CA23-2102	2.0 - 2.5	21	2.0	+/- 0.5	+23	+33	2.0:1	200	C2
CA23-2103	2.0 - 2.5	20	2.7	+/- 0.75	+27	+35	2.0:1	450	C2
CA23-2104	2.0 - 2.5	20	3.0	+/- 0.75	+30	+38	2.0:1	650	C2
CA23-3091	2.0 - 2.5	32	1.6	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-3093	2.0 - 2.5	32	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-3094	2.0 - 2.5	32	1.0	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-3098	2.0 - 2.5	32	1.5	+/- 0.5	+15	+25	2.0:1	130	C3
CA23-3101	2.0 - 2.5	31	1.5	+/- 0.5	+20	+30	2.0:1	200	C3
CA23-3102	2.0 - 2.5	31	2.0	+/- 0.5	+23	+33	2.0:1	250	C3
CA23-3103	2.0 - 2.5	30	2.7	+/- 0.75	+27	+35	2.0:1	500	C3
CA23-3104	2.0 - 2.5	30	3.0	+/- 0.75	+30	+38	2.0:1	750	C3
<b>Low Noise Amplifiers (500 MHz Bandwidth):</b>		<b>2.5 to 3.0 GHz</b>							
CA23-2107	2.5 - 3.0	22	2.0	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-2109	2.5 - 3.0	22	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-2110	2.5 - 3.0	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-2114	2.5 - 3.0	22	1.5	+/- 0.5	+15	+25	2.0:1	100	C2
CA23-2116	2.5 - 3.0	21	1.5	+/- 0.5	+20	+30	2.0:1	150	C2
CA23-2117	2.5 - 3.0	21	2.0	+/- 0.5	+23	+33	2.0:1	200	C2
CA23-2118	2.5 - 3.0	20	2.7	+/- 0.75	+27	+35	2.0:1	450	C2
CA23-2119	2.5 - 3.0	20	3.0	+/- 0.75	+30	+38	2.0:1	650	C2
CA23-3107	2.5 - 3.0	32	2.0	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-3109	2.5 - 3.0	32	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-3110	2.5 - 3.0	32	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-3114	2.5 - 3.0	32	1.5	+/- 0.5	+15	+25	2.0:1	130	C3
CA23-3116	2.5 - 3.0	31	1.5	+/- 0.5	+20	+30	2.0:1	200	C3
CA23-3117	2.5 - 3.0	31	2.0	+/- 0.5	+23	+33	2.0:1	250	C3
CA23-3118	2.5 - 3.0	30	2.7	+/- 0.75	+27	+35	2.0:1	500	C3
CA23-3119	2.5 - 3.0	30	3.0	+/- 0.75	+30	+38	2.0:1	750	C3

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Low Noise & Medium Power 1.0-1.5 GHz

Low Noise & Medium Power 1.5-2.0 GHz

Low Noise & Medium Power 2.0-2.5 GHz

Low Noise & Medium Power 2.5-3.0 GHz



**LOW NOISE & MEDIUM POWER AMPLIFIERS, 500 MHZ BANDWIDTHS: 1.0 GHz to 4.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Low Noise Amplifiers (500 MHz Bandwidth):</b>					<b>3.0 to 3.5 GHz</b>				
CA34-2001	3.0 - 3.5	22	2.0	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-2003	3.0 - 3.5	22	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-2004	3.0 - 3.5	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-2008	3.0 - 3.5	22	1.5	+/- 0.5	+15	+25	2.0:1	100	C2
CA34-2010	3.0 - 3.5	21	1.5	+/- 0.5	+20	+30	2.0:1	150	C2
CA34-2011	3.0 - 3.5	21	2.0	+/- 0.5	+23	+33	2.0:1	200	C2
CA34-2012	3.0 - 3.5	20	2.7	+/- 0.75	+27	+35	2.0:1	450	C2
CA34-2013	3.0 - 3.5	20	3.0	+/- 0.75	+30	+38	2.0:1	650	C2
CA34-3001	3.0 - 3.5	31	2.0	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-3003	3.0 - 3.5	31	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-3004	3.0 - 3.5	31	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-3008	3.0 - 3.5	32	1.5	+/- 0.5	+15	+25	2.0:1	130	C3
CA34-3010	3.0 - 3.5	31	1.5	+/- 0.5	+20	+30	2.0:1	200	C3
CA34-3011	3.0 - 3.5	31	2.0	+/- 0.5	+23	+33	2.0:1	250	C3
CA34-3012	3.0 - 3.5	30	2.7	+/- 0.75	+27	+35	2.0:1	500	C3
CA34-3013	3.0 - 3.5	30	3.0	+/- 0.75	+30	+38	2.0:1	750	C3
<b>Low Noise Amplifiers (500 MHz Bandwidth):</b>					<b>3.5 to 4.0 GHz</b>				
CA34-2016	3.5 - 4.0	22	2.0	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-2018	3.5 - 4.0	22	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-2019	3.5 - 4.0	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-2023	3.5 - 4.0	22	1.5	+/- 0.5	+15	+25	2.0:1	100	C2
CA34-2025	3.5 - 4.0	21	1.5	+/- 0.5	+20	+30	2.0:1	150	C2
CA34-2026	3.5 - 4.0	21	2.0	+/- 0.5	+23	+33	2.0:1	200	C2
CA34-2027	3.5 - 4.0	20	2.7	+/- 0.75	+27	+35	2.0:1	450	C2
CA34-2028	3.5 - 4.0	20	3.0	+/- 0.75	+30	+38	2.0:1	650	C2
CA34-3016	3.5 - 4.0	31	2.0	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-3018	3.5 - 4.0	31	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-3019	3.5 - 4.0	31	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-3023	3.5 - 4.0	32	1.5	+/- 0.5	+15	+25	2.0:1	130	C3
CA34-3025	3.5 - 4.0	31	1.5	+/- 0.5	+20	+30	2.0:1	200	C3
CA34-3026	3.5 - 4.0	31	2.0	+/- 0.5	+23	+33	2.0:1	250	C3
CA34-3027	3.5 - 4.0	30	2.7	+/- 0.75	+27	+35	2.0:1	500	C3
CA34-3028	3.5 - 4.0	30	3.0	+/- 0.75	+30	+38	2.0:1	750	C3

**LIMITING AMPLIFIERS: 0.5 to 18.0 GHz**

Ciao Wireless features a broad selection of Limiting Amplifiers. Limiting Amplifiers are designed to accept a wide range of input power levels while responding with a limited range of output power levels. Units are typically manufactured with Balanced Circuitry, ensuring stable operation with low return loss. Units are typically manufactured with Balanced Circuitry, ensuring stable operation with low return loss. Ciao's limiting amplifier series features low AM/PM Conversion, provide fast pulse response, and the harmonic suppression performance as required for EW/ECM and Radar Applications. Ciao can customize any of these Limiting Amplifiers to meet your exact requirements.

Model Number	Frequency Range GHz	Input Power Range dBm	Output Psat Range dBm (min/max)	Psat Flatness +/-dB (max)	Noise Figure dB(max)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Limiting Amplifiers:</b>		<b>Low Gain, Medium Input Dynamic Range Over 0.5 - 18.0 GHz</b>						
CLA02-4001	0.5 - 2.0	-32 to +10	+3 to +7	+/- 1.5	3.5	2.0:1	250	XK3
CLA24-4001	2.0 - 4.0	-28 to +10	+7 to +11	+/- 1.5	3.0	2.0:1	250	C3
CLA26-4001	2.0 - 6.0	-21 to +10	+14 to +18	+/- 1.5	4.0	2.0:1	300	XK3
CLA28-4001	2.0 - 8.0	-21 to +10	+14 to +18	+/- 1.5	4.0	2.0:1	300	XK3
CLA48-4001	4.0 - 8.0	-21 to +10	+14 to +17	+/- 1.5	4.0	2.0:1	250	C4
CLA712-5001	7.0 - 12.4	-21 to +10	+14 to +19	+/- 1.5	5.0	2.0:1	350	K6
CLA618-6001	6.0 - 18.0	-21 to +10	+14 to +19	+/- 1.5	6.0	2.0:1	400	K6
CLA818-6001	8.0 - 18.0	-21 to +10	+14 to +19	+/- 1.5	6.0	2.0:1	400	K6
CLA1218-5001	12.0 - 18.0	-21 to +10	+14 to +19	+/- 1.5	6.0	2.0:1	400	K6
<b>Limiting Amplifiers:</b>		<b>Ultra-Wide Input Dynamic Range Over 0.5 - 18.0 GHz</b>						
CLA02-8001	0.5 - 2.0	-61 to +20	+3 to +7	+/- 1.5	3.5	2.0:1	500	XK3/XK2
CLA024-8001	2.0 - 4.0	-57 to +20	+7 to +11	+/- 1.5	3.0	2.0:1	500	C3/C3
CLA26-8001	2.0 - 6.0	-50 to +20	+14 to +18	+/- 1.5	4.0	2.0:1	600	XK3/XK2
CLA28-8001	2.0 - 8.0	-50 to +20	+14 to +18	+/- 1.5	4.0	2.0:1	600	XK3/XK2
CLA48-8001	4.0 - 8.0	-50 to +20	+14 to +17	+/- 1.5	4.0	2.0:1	500	C3/C3
CLA712-9001	7.0 - 12.4	-50 to +20	+14 to +19	+/- 1.5	5.0	2.0:1	700	K6/K6
CLA618-1201	6.0 - 18.0	-50 to +20	+14 to +19	+/- 1.5	6.0	2.0:1	750	K6/K6
CLA818-1201	8.0 - 18.0	-50 to +20	+14 to +19	+/- 1.5	6.0	2.0:1	750	K6/K6
CLA1218-1201	12.0 - 18.0	-50 to +20	+14 to +19	+/- 1.5	6.0	2.0:1	750	K6/K6

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Low Noise  
3.0-3.5 GHz

Low Noise  
3.5-4.0 GHz

Limiting  
Low Gain, Medium Input  
0.5-18.0 GHz

Limiting  
Ultra-Wide Input  
0.5-18.0 GHz



**BROADBAND AMPLIFIERS: 6.0 - 18.0 GHz and 8.0 - 18.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Broadband Amplifiers: 6.0 - 18.0 GHz</b>									
CA618-2001	6.0 - 18.0	14	5.0	+/- 1.5	+10	+20	2.0:1	100	K2
CA618-2002	6.0 - 18.0	14	5.0	+/- 1.5	+12	+23	2.0:1	150	K2
CA618-2003	6.0 - 18.0	13	5.0	+/- 1.5	+15	+25	2.0:1	200	K2
CA618-2004	6.0 - 18.0	12	5.0	+/- 1.5	+17	+27	2.0:1	250	K2
CA618-3001	6.0 - 18.0	20	5.0	+/- 1.5	+10	+20	2.0:1	150	K3
CA618-3002	6.0 - 18.0	20	5.0	+/- 1.5	+12	+23	2.0:1	200	K3
CA618-3003	6.0 - 18.0	19	5.0	+/- 1.5	+15	+25	2.0:1	250	K3
CA618-3004	6.0 - 18.0	18	5.0	+/- 1.5	+17	+27	2.0:1	300	K3
CA618-3005	6.0 - 18.0	17	6.0	+/- 1.5	+20	+30	2.0:1	350	K3
CA618-3006	6.0 - 18.0	16	6.0	+/- 2.0	+23	+33	2.0:1	450	K3
CA618-3008	6.0 - 18.0	14	6.0	+/- 2.5	+27	+35	2.0:1	650	K3
CA618-4001	6.0 - 18.0	26	5.0	+/- 2.0	+10	+20	2.0:1	200	K4
CA618-4002	6.0 - 18.0	25	5.0	+/- 2.0	+12	+23	2.0:1	250	K4
CA618-4003	6.0 - 18.0	25	5.0	+/- 2.0	+15	+25	2.0:1	300	K4
CA618-4004	6.0 - 18.0	24	5.0	+/- 2.0	+17	+27	2.0:1	350	K4
CA618-4005	6.0 - 18.0	23	6.0	+/- 2.0	+20	+30	2.0:1	400	K4
CA618-4006	6.0 - 18.0	22	6.0	+/- 2.0	+23	+33	2.0:1	500	K4
CA618-4008	6.0 - 18.0	20	6.0	+/- 2.5	+27	+35	2.0:1	700	K4
CA618-5001	6.0 - 18.0	32	5.0	+/- 2.5	+10	+20	2.0:1	250	K6
CA618-5002	6.0 - 18.0	32	5.0	+/- 2.5	+12	+23	2.0:1	300	K6
CA618-5003	6.0 - 18.0	31	5.0	+/- 2.5	+15	+25	2.0:1	350	K6
CA618-5004	6.0 - 18.0	30	5.0	+/- 2.5	+17	+27	2.0:1	400	K6
CA618-5005	6.0 - 18.0	29	6.0	+/- 2.5	+20	+30	2.0:1	450	K6
CA618-5006	6.0 - 18.0	28	6.0	+/- 2.5	+23	+33	2.0:1	550	K6
CA618-5008	6.0 - 18.0	26	6.0	+/- 2.5	+27	+35	2.0:1	850	K6
CA618-6001	6.0 - 18.0	38	5.0	+/- 2.5	+10	+20	2.0:1	300	K6
CA618-6002	6.0 - 18.0	38	5.0	+/- 2.5	+12	+23	2.0:1	350	K6
CA618-6003	6.0 - 18.0	37	5.0	+/- 2.5	+15	+25	2.0:1	400	K6
CA618-6004	6.0 - 18.0	36	5.0	+/- 2.5	+17	+27	2.0:1	450	K6
CA618-6005	6.0 - 18.0	35	6.0	+/- 2.5	+20	+30	2.0:1	500	K6
CA618-6006	6.0 - 18.0	34	6.0	+/- 2.5	+23	+33	2.0:1	600	K6
CA618-6008	6.0 - 18.0	32	6.0	+/- 2.5	+27	+35	2.0:1	650	K6
<b>Broadband Amplifiers: 8.0 - 18.0 GHz</b>									
CA818-2001	8.0 - 18.0	14	5.0	+/- 1.5	+10	+20	2.0:1	100	K2
CA818-2002	8.0 - 18.0	14	5.0	+/- 1.5	+12	+23	2.0:1	150	K2
CA818-2003	8.0 - 18.0	13	5.0	+/- 1.5	+15	+25	2.0:1	200	K2
CA818-2004	8.0 - 18.0	12	5.0	+/- 1.5	+17	+27	2.0:1	250	K2
CA818-3001	8.0 - 18.0	20	5.0	+/- 1.5	+10	+20	2.0:1	150	K3
CA818-3002	8.0 - 18.0	20	5.0	+/- 1.5	+12	+23	2.0:1	200	K3
CA818-3003	8.0 - 18.0	19	5.0	+/- 1.5	+15	+25	2.0:1	250	K3
CA818-3004	8.0 - 18.0	18	5.0	+/- 1.5	+17	+27	2.0:1	300	K3
CA818-3005	8.0 - 18.0	17	6.0	+/- 1.5	+20	+30	2.0:1	350	K3
CA818-3006	8.0 - 18.0	16	6.0	+/- 2.0	+23	+33	2.0:1	450	K3
CA818-3008	8.0 - 18.0	14	6.0	+/- 2.5	+27	+35	2.0:1	650	K3
CA818-4001	8.0 - 18.0	26	5.0	+/- 2.0	+10	+20	2.0:1	200	K4
CA818-4002	8.0 - 18.0	25	5.0	+/- 2.0	+12	+23	2.0:1	250	K4
CA818-4003	8.0 - 18.0	25	5.0	+/- 2.0	+15	+25	2.0:1	300	K4
CA818-4004	8.0 - 18.0	24	5.0	+/- 2.0	+17	+27	2.0:1	350	K4
CA818-4005	8.0 - 18.0	23	6.0	+/- 2.0	+20	+30	2.0:1	400	K4
CA818-4006	8.0 - 18.0	22	6.0	+/- 2.0	+23	+33	2.0:1	500	K4
CA818-4008	8.0 - 18.0	20	6.0	+/- 2.5	+27	+35	2.0:1	700	K4
CA818-5001	8.0 - 18.0	32	5.0	+/- 2.5	+10	+20	2.0:1	250	K6
CA818-5002	8.0 - 18.0	32	5.0	+/- 2.5	+12	+23	2.0:1	300	K6
CA818-5003	8.0 - 18.0	31	5.0	+/- 2.5	+15	+25	2.0:1	350	K6
CA818-5004	8.0 - 18.0	30	5.0	+/- 2.5	+17	+27	2.0:1	400	K6
CA818-5005	8.0 - 18.0	29	6.0	+/- 2.5	+20	+30	2.0:1	450	K6
CA818-5006	8.0 - 18.0	28	6.0	+/- 2.5	+23	+33	2.0:1	550	K6
CA818-5008	8.0 - 18.0	26	6.0	+/- 2.5	+27	+35	2.0:1	850	K6
CA818-6001	8.0 - 18.0	38	5.0	+/- 2.5	+10	+20	2.0:1	300	K6
CA818-6002	8.0 - 18.0	38	5.0	+/- 2.5	+12	+23	2.0:1	350	K6
CA818-6003	8.0 - 18.0	37	5.0	+/- 2.5	+15	+25	2.0:1	400	K6
CA818-6004	8.0 - 18.0	36	5.0	+/- 2.5	+17	+27	2.0:1	450	K6
CA818-6005	8.0 - 18.0	35	6.0	+/- 2.5	+20	+30	2.0:1	500	K6
CA818-6006	8.0 - 18.0	34	6.0	+/- 2.5	+23	+33	2.0:1	600	K6
CA818-6008	8.0 - 18.0	32	6.0	+/- 2.5	+27	+35	2.0:1	650	K6

Broadband 6.0-18.0 GHz

Broadband 8.0-18.0 GHz

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.



**MULTI-OCTAVE BAND AMPLIFIERS: 2.0 - 6.0 GHz, 2.0 - 8.0 GHz, 2.0 - 10.0 GHz, and 2.0 - 12.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Multi-Octave Amplifiers for EW &amp; ECM: 2.0 - 6.0 GHz</b>									
CA26-2001	2.0 - 6.0	20	3.0	+/- 1.0	+10	+20	2.0:1	90	XK2
CA26-2003	2.0 - 6.0	20	3.0	+/- 1.0	+15	+25	2.0:1	130	XK2
CA26-2005	2.0 - 6.0	19	3.5	+/- 1.0	+20	+30	2.0:1	185	XK2
CA26-2006	2.0 - 6.0	18	4.0	+/- 1.0	+23	+32	2.0:1	220	XK2
CA26-3001	2.0 - 6.0	28	3.0	+/- 1.0	+10	+20	2.0:1	150	XK2
CA26-3003	2.0 - 6.0	28	3.0	+/- 1.0	+15	+25	2.0:1	200	XK2
CA26-3004	2.0 - 6.0	27	3.5	+/- 1.0	+17	+25	2.0:1	220	XK2
CA26-3005	2.0 - 6.0	27	3.5	+/- 1.0	+20	+30	2.0:1	240	XK2
CA26-3006	2.0 - 6.0	26	4.0	+/- 1.0	+23	+32	2.0:1	280	XK2
CA26-3008	2.0 - 6.0	23	5.0	+/- 1.5	+27	+35	2.0:1	550	XK2
CA26-3009	2.0 - 6.0	23	5.0	+/- 1.5	+30	+38	2.0:1	700	XK2
CA26-3021	2.0 - 6.0	28	2.0	+/- 1.0	+10	+20	2.0:1	150	XK2
CA26-3022	2.0 - 6.0	28	2.0	+/- 1.0	+13	+23	2.0:1	160	XK2
CA26-3023	2.0 - 6.0	28	2.0	+/- 1.0	+15	+25	2.0:1	200	XK2
CA26-4001	2.0 - 6.0	35	3.0	+/- 1.0	+10	+20	2.0:1	220	XK2
CA26-4003	2.0 - 6.0	35	3.0	+/- 1.0	+15	+25	2.0:1	270	XK2
CA26-4004	2.0 - 6.0	34	3.5	+/- 1.0	+17	+27	2.0:1	290	XK2
CA26-4005	2.0 - 6.0	34	3.5	+/- 1.0	+20	+30	2.0:1	310	XK2
CA26-4006	2.0 - 6.0	33	4.0	+/- 1.0	+23	+33	2.0:1	350	XK2
CA26-4008	2.0 - 6.0	30	5.0	+/- 1.5	+27	+35	2.0:1	620	XK2
CA26-4009	2.0 - 6.0	30	5.0	+/- 1.5	+30	+38	2.0:1	770	XK2
CA26-4021	2.0 - 6.0	35	2.0	+/- 1.0	+10	+20	2.0:1	220	XK2
CA26-4022	2.0 - 6.0	35	2.0	+/- 1.0	+13	+23	2.0:1	230	XK2
CA26-4023	2.0 - 6.0	35	2.0	+/- 1.0	+15	+25	2.0:1	270	XK2
<b>Multi-Octave Band Amplifiers for EW &amp; ECM: 2.0 - 8.0 GHz</b>									
CA28-2001	2.0 - 8.0	20	3.0	+/- 1.0	+10	+20	2.0:1	90	XK2
CA28-2003	2.0 - 8.0	20	3.0	+/- 1.0	+15	+25	2.0:1	130	XK2
CA28-2004	2.0 - 8.0	19	3.5	+/- 1.0	+17	+27	2.0:1	150	XK2
CA28-2005	2.0 - 8.0	19	4.0	+/- 1.5	+20	+30	2.0:1	185	XK2
CA28-2006	2.0 - 8.0	18	5.0	+/- 1.5	+23	+32	2.0:1	220	XK2
CA28-3001	2.0 - 8.0	28	3.0	+/- 1.0	+10	+20	2.0:1	150	XK2
CA28-3003	2.0 - 8.0	28	3.0	+/- 1.0	+15	+25	2.0:1	200	XK2
CA28-3004	2.0 - 8.0	27	3.5	+/- 1.0	+17	+27	2.0:1	220	XK2
CA28-3005	2.0 - 8.0	27	3.5	+/- 1.5	+20	+30	2.0:1	240	XK2
CA28-3006	2.0 - 8.0	26	4.0	+/- 1.5	+23	+32	2.0:1	280	XK2
CA28-3021	2.0 - 8.0	28	2.5	+/- 1.0	+10	+20	2.0:1	150	XK2
CA28-3022	2.0 - 8.0	28	2.5	+/- 1.0	+13	+23	2.0:1	160	XK2
CA28-3023	2.0 - 8.0	28	2.5	+/- 1.0	+15	+25	2.0:1	200	XK2
CA28-4001	2.0 - 8.0	35	3.0	+/- 1.0	+10	+20	2.0:1	220	XK2
CA28-4003	2.0 - 8.0	35	3.0	+/- 1.0	+15	+25	2.0:1	270	XK2
CA28-4004	2.0 - 8.0	34	3.5	+/- 1.0	+17	+27	2.0:1	290	XK2
CA28-4005	2.0 - 8.0	34	3.5	+/- 1.5	+20	+30	2.0:1	310	XK2
CA28-4006	2.0 - 8.0	33	4.0	+/- 1.5	+23	+33	2.0:1	350	XK2
CA28-4021	2.0 - 8.0	35	2.5	+/- 1.0	+10	+20	2.0:1	220	XK2
CA28-4022	2.0 - 8.0	35	2.5	+/- 1.0	+13	+23	2.0:1	230	XK2
CA28-4023	2.0 - 8.0	35	2.5	+/- 1.0	+15	+25	2.0:1	270	XK2
<b>Multi-Octave Band Amplifiers for EW &amp; ECM: 2.0 - 10.0 GHz</b>									
CA210-3001	2.0 - 10.0	25	4.5	+/- 2.0	+10	+20	2.0:1	180	K3
CA210-3003	2.0 - 10.0	24	4.5	+/- 2.0	+15	+25	2.0:1	210	K3
CA210-3004	2.0 - 10.0	24	4.5	+/- 2.0	+17	+27	2.0:1	235	K3
CA210-3005	2.0 - 10.0	23	5.0	+/- 2.5	+20	+30	2.0:1	285	K3
CA210-4001	2.0 - 10.0	33	4.5	+/- 2.0	+10	+20	2.0:1	240	K4
CA210-4003	2.0 - 10.0	32	4.5	+/- 2.0	+15	+25	2.0:1	270	K4
CA210-4004	2.0 - 10.0	32	4.5	+/- 2.0	+17	+27	2.0:1	305	K4
CA210-4005	2.0 - 10.0	31	5.0	+/- 2.5	+20	+30	2.0:1	355	K4
<b>Multi-Octave Band Amplifiers for EW &amp; ECM: 2.0 - 12.0 GHz</b>									
CA212-3001	2.0 - 12.0	25	4.5	+/- 2.0	+10	+20	2.0:1	180	K3
CA212-3003	2.0 - 12.0	24	4.5	+/- 2.5	+15	+25	2.0:1	210	K3
CA212-3004	2.0 - 12.0	24	5.0	+/- 2.5	+17	+27	2.0:1	235	K3
CA212-3005	2.0 - 12.0	23	5.0	+/- 2.5	+20	+30	2.0:1	285	K3
CA212-4001	2.0 - 12.0	33	4.5	+/- 2.0	+10	+20	2.0:1	240	K4
CA212-4003	2.0 - 12.0	32	4.5	+/- 2.5	+15	+25	2.0:1	270	K4
CA212-4004	2.0 - 12.0	32	5.0	+/- 2.5	+17	+27	2.0:1	305	K4
CA212-4005	2.0 - 12.0	31	5.0	+/- 2.5	+20	+30	2.0:1	355	K4

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Multi-Octave Band  
for EW & ECM  
2.0-6.0 GHz

Multi-Octave Band  
for EW & ECM  
2.0-8.0 GHz

Multi-Octave Band  
for EW & ECM  
2.0-10.0 GHz

Multi-Octave Band  
for EW & ECM  
2.0-12.0 GHz



**ULTRA BROADBAND AMPLIFIERS: 0.1 – 2.0 GHz, 0.1 – 6.0 GHz, 0.1 – 8.0 GHz, and 0.1 – 10.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Ultra Broadband Amplifiers: 0.1 to 2.0 GHz</b>									
CA0102-2001	0.1 - 2.0	20	3.0*	+/- 1.5	+10	+20	2.0:1	90	XK2
CA0102-2002	0.1 - 2.0	20	3.0*	+/- 1.5	+13	+23	2.0:1	100	XK2
CA0102-2003	0.1 - 2.0	20	3.5*	+/- 1.5	+15	+25	2.0:1	130	XK2
CA0102-2004	0.1 - 2.0	19	4.0*	+/- 2.0	+17	+27	2.0:1	160	XK2
CA0102-2005	0.1 - 2.0	17	5.0*	+/- 2.0	+20	+30	2.0:1	200	XK2
CA0102-2011	0.1 - 2.0	20	2.5*	+/- 1.5	+10	+20	2.0:1	90	XK2
CA0102-2012	0.1 - 2.0	20	2.5*	+/- 1.5	+13	+23	2.0:1	100	XK2
CA0102-2014	0.1 - 2.0	20	2.0*	+/- 1.5	+10	+20	2.0:1	90	XK2
CA0102-2015	0.1 - 2.0	20	2.0*	+/- 1.5	+13	+23	2.0:1	100	XK2
CA0102-3001	0.1 - 2.0	30	3.0*	+/- 1.5	+10	+20	2.0:1	150	XK2
CA0102-3002	0.1 - 2.0	30	3.0*	+/- 1.5	+13	+23	2.0:1	160	XK2
CA0102-3003	0.1 - 2.0	30	3.5*	+/- 1.5	+15	+25	2.0:1	190	XK2
CA0102-3004	0.1 - 2.0	29	4.0*	+/- 2.0	+17	+27	2.0:1	220	XK2
CA0102-3005	0.1 - 2.0	27	5.0*	+/- 2.0	+20	+30	2.0:1	260	XK2
CA0102-3011	0.1 - 2.0	30	2.5*	+/- 1.5	+10	+20	2.0:1	150	XK2
CA0102-3012	0.1 - 2.0	30	2.5*	+/- 1.5	+13	+23	2.0:1	160	XK2
CA0102-3014	0.1 - 2.0	30	2.0*	+/- 1.5	+10	+20	2.0:1	90	XK2
CA0102-3015	0.1 - 2.0	30	2.0*	+/- 1.5	+13	+23	2.0:1	100	XK2
<b>Ultra Broadband Amplifiers: 0.1 to 6.0 GHz</b>									
CA0106-2001	0.1 - 6.0	20	3.0*	+/- 2.5	+10	+20	2.0:1	90	XK2
CA0106-2002	0.1 - 6.0	20	3.0*	+/- 2.5	+13	+23	2.0:1	100	XK2
CA0106-2003	0.1 - 6.0	20	3.5*	+/- 2.5	+15	+25	2.0:1	130	XK2
CA0106-2004	0.1 - 6.0	19	4.0*	+/- 2.5	+17	+27	2.0:1	160	XK2
CA0106-2005	0.1 - 6.0	17	5.0*	+/- 2.5	+20	+30	2.0:1	200	XK2
CA0106-2011	0.1 - 6.0	20	2.7*	+/- 2.5	+10	+20	2.0:1	90	XK2
CA0106-2012	0.1 - 6.0	20	2.7*	+/- 2.5	+13	+23	2.0:1	100	XK2
CA0106-3001	0.1 - 6.0	30	3.0*	+/- 2.5	+10	+20	2.0:1	150	XK2
CA0106-3002	0.1 - 6.0	30	3.0*	+/- 2.5	+13	+23	2.0:1	160	XK2
CA0106-3003	0.1 - 6.0	30	3.5*	+/- 2.5	+15	+25	2.0:1	190	XK2
CA0106-3004	0.1 - 6.0	29	4.0*	+/- 2.5	+17	+27	2.0:1	220	XK2
CA0106-3005	0.1 - 6.0	27	5.0*	+/- 2.5	+20	+30	2.0:1	260	XK2
CA0106-3011	0.1 - 6.0	30	2.7*	+/- 2.5	+10	+20	2.0:1	150	XK2
CA0106-3012	0.1 - 6.0	30	2.7*	+/- 2.5	+13	+23	2.0:1	160	XK2
<b>Ultra Broadband Amplifiers: 0.1 to 8.0 GHz</b>									
CA0108-2001	0.1 - 8.0	20	3.5*	+/- 2.5	+10	+20	2.0:1	90	XK2
CA0108-2002	0.1 - 8.0	20	3.5*	+/- 2.5	+13	+23	2.0:1	100	XK2
CA0108-2003	0.1 - 8.0	20	4.0*	+/- 2.5	+15	+25	2.0:1	130	XK2
CA0108-2004	0.1 - 8.0	19	4.5*	+/- 2.5	+17	+27	2.0:1	160	XK2
CA0108-2005	0.1 - 8.0	17	5.0*	+/- 2.5	+20	+30	2.0:1	200	XK2
CA0108-2011	0.1 - 8.0	20	3.0*	+/- 2.5	+10	+20	2.0:1	90	XK2
CA0108-2012	0.1 - 8.0	20	3.0*	+/- 2.5	+13	+23	2.0:1	100	XK2
CA0108-3001	0.1 - 8.0	30	3.5*	+/- 2.5	+10	+20	2.0:1	150	XK2
CA0108-3002	0.1 - 8.0	30	3.5*	+/- 2.5	+13	+23	2.0:1	160	XK2
CA0108-3003	0.1 - 8.0	30	4.0*	+/- 2.5	+15	+25	2.0:1	190	XK2
CA0108-3004	0.1 - 8.0	29	4.5*	+/- 2.5	+17	+27	2.0:1	220	XK2
CA0108-3005	0.1 - 8.0	27	5.0*	+/- 2.5	+20	+30	2.0:1	260	XK2
CA0108-3011	0.1 - 8.0	30	3.0*	+/- 2.5	+10	+20	2.0:1	150	XK2
CA0108-3012	0.1 - 8.0	30	3.0*	+/- 2.5	+13	+23	2.0:1	160	XK2
<b>Ultra Broadband Amplifiers: 0.1 to 10.0 GHz</b>									
CA0110-2001	0.1 - 10.0	20	3.5*	+/- 2.5	+10	+20	2.0:1	90	XK2
CA0110-2002	0.1 - 10.0	20	3.5*	+/- 2.5	+13	+23	2.0:1	100	XK2
CA0110-2003	0.1 - 10.0	20	4.0*	+/- 2.5	+15	+25	2.0:1	130	XK2
CA0110-2004	0.1 - 10.0	19	4.5*	+/- 2.5	+17	+27	2.0:1	160	XK2
CA0110-2005	0.1 - 10.0	17	5.0*	+/- 2.5	+20	+30	2.0:1	200	XK2
CA0110-2011	0.1 - 10.0	20	3.0*	+/- 2.5	+10	+20	2.0:1	90	XK2
CA0110-2012	0.1 - 10.0	20	3.0*	+/- 2.5	+13	+23	2.0:1	100	XK2
CA0110-3001	0.1 - 10.0	30	3.5*	+/- 2.5	+10	+20	2.0:1	150	XK2
CA0110-3002	0.1 - 10.0	30	3.5*	+/- 2.5	+13	+23	2.0:1	160	XK2
CA0110-3003	0.1 - 10.0	30	4.0*	+/- 2.5	+15	+25	2.0:1	190	XK2
CA0110-3004	0.1 - 10.0	29	4.5*	+/- 2.5	+17	+27	2.0:1	220	XK2
CA0110-3005	0.1 - 10.0	27	5.0*	+/- 2.5	+20	+30	2.0:1	260	XK2
CA0110-3011	0.1 - 10.0	30	3.0*	+/- 2.5	+10	+20	2.0:1	150	XK2
CA0110-3012	0.1 - 10.0	30	3.0*	+/- 2.5	+13	+23	2.0:1	160	XK2

\*Noise Figure guaranteed above 250 MHz

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Ultra Broadband  
0.1-2.0 GHz

Ultra Broadband  
0.1-6.0 GHz

Ultra Broadband  
0.1-8.0 GHz

Ultra Broadband  
0.1-10.0 GHz



**ULTRA BROADBAND AMPLIFIERS: 0.5 – 18.0 GHz, 1.0 – 18.0 GHz, and 2.0 – 18.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Ultra Broadband Amplifiers:</b>					<b>0.5 to 18.0 GHz</b>				
CA018-2001	0.5 - 18.0	18	5.0	+/- 2.5	+5	+20	2.0:1	120	K2
CA018-2002	0.5 - 18.0	18	5.0	+/- 2.5	+8	+20	2.0:1	150	K2
CA018-2003	0.5 - 18.0	18	5.0	+/- 2.5	+10	+20	2.0:1	160	K2
CA018-3001	0.5 - 18.0	26	5.0	+/- 2.5	+5	+20	2.0:1	180	K3
CA018-3002	0.5 - 18.0	26	5.0	+/- 2.5	+8	+20	2.0:1	210	K3
CA018-3003	0.5 - 18.0	26	5.0	+/- 2.5	+10	+20	2.0:1	220	K3
CA018-3009	0.5 - 18.0	26	4.5	+/- 2.5	+10	+20	2.0:1	220	K3
CA018-3010	0.5 - 18.0	26	3.8	+/- 2.5	+10	+20	2.5:1	220	K3
CA018-4001	0.5 - 18.0	34	5.0	+/- 2.5	+5	+20	2.0:1	280	K4
CA018-4002	0.5 - 18.0	34	5.0	+/- 2.5	+8	+20	2.0:1	310	K4
CA018-4003	0.5 - 18.0	34	5.0	+/- 2.5	+10	+20	2.0:1	320	K4
CA018-4009	0.5 - 18.0	34	4.5	+/- 2.5	+10	+20	2.0:1	320	K4
CA018-4010	0.5 - 18.0	34	3.8	+/- 2.5	+10	+20	2.5:1	320	K4
<b>Ultra Broadband Amplifiers:</b>					<b>1.0 to 18.0 GHz</b>				
CA118-2001	1.0 - 18.0	18	5.0	+/- 2.5	+5	+20	2.0:1	120	K2
CA118-2002	1.0 - 18.0	18	5.0	+/- 2.5	+8	+20	2.0:1	130	K2
CA118-2003	1.0 - 18.0	18	5.0	+/- 2.5	+10	+20	2.0:1	140	K2
CA118-3001	1.0 - 18.0	26	5.0	+/- 2.5	+5	+20	2.0:1	180	K3
CA118-3002	1.0 - 18.0	26	5.0	+/- 2.5	+8	+20	2.0:1	190	K3
CA118-3003	1.0 - 18.0	26	5.0	+/- 2.5	+10	+20	2.0:1	200	K3
CA118-3009	1.0 - 18.0	26	4.5	+/- 2.5	+10	+20	2.0:1	200	K3
CA118-3010	1.0 - 18.0	26	3.8	+/- 2.5	+10	+20	2.5:1	200	K3
CA118-4001	1.0 - 18.0	34	5.0	+/- 2.5	+5	+20	2.0:1	240	K4
CA118-4002	1.0 - 18.0	34	5.0	+/- 2.5	+8	+20	2.0:1	250	K4
CA118-4003	1.0 - 18.0	34	5.0	+/- 2.5	+10	+20	2.0:1	260	K4
CA118-4009	1.0 - 18.0	34	4.5	+/- 2.5	+10	+20	2.0:1	260	K4
CA118-4010	1.0 - 18.0	34	3.8	+/- 2.5	+10	+20	2.5:1	260	K4
<b>Ultra Broadband Amplifiers:</b>					<b>2.0 to 18.0 GHz</b>				
CA218-2001	2.0 - 18.0	18	5.0	+/- 2.5	+10	+20	2.0:1	140	K2
CA218-2002	2.0 - 18.0	18	5.0	+/- 2.5	+13	+20	2.0:1	150	K2
CA218-2003	2.0 - 18.0	17	5.0	+/- 2.5	+15	+20	2.0:1	160	K2
CA218-2004	2.0 - 18.0	16	5.0	+/- 2.5	+17	+27	2.0:1	200	K2
CA218-2005	2.0 - 18.0	14	6.0	+/- 2.5	+20	+30	2.0:1	285	K2
CA218-2006	2.0 - 18.0	14	6.0	+/- 2.5	+22	+32	2.0:1	350	K2
CA218-2007	2.0 - 18.0	12	6.0	+/- 2.5	+24	+34	2.0:1	400	K2
CA218-3001	2.0 - 18.0	26	5.0	+/- 2.5	+10	+20	2.0:1	200	K3
CA218-3002	2.0 - 18.0	26	5.0	+/- 2.5	+13	+20	2.0:1	210	K3
CA218-3003	2.0 - 18.0	25	5.0	+/- 2.5	+15	+20	2.0:1	220	K3
CA218-3004	2.0 - 18.0	24	5.0	+/- 2.5	+17	+27	2.0:1	260	K3
CA218-3005	2.0 - 18.0	22	6.0	+/- 2.5	+20	+30	2.0:1	345	K3
CA218-3006	2.0 - 18.0	22	6.0	+/- 2.5	+22	+32	2.0:1	425	K3
CA218-3007	2.0 - 18.0	20	6.0	+/- 2.5	+24	+34	2.0:1	475	K3
CA218-3016	2.0 - 18.0	26	4.5	+/- 2.5	+10	+20	2.0:1	200	K3
CA218-3017	2.0 - 18.0	26	3.8	+/- 2.5	+10	+20	2.0:1	200	K3
CA218-4001	2.0 - 18.0	34	5.0	+/- 2.5	+10	+20	2.0:1	260	K4
CA218-4002	2.0 - 18.0	34	5.0	+/- 2.5	+13	+20	2.0:1	270	K4
CA218-4003	2.0 - 18.0	33	5.0	+/- 2.5	+15	+20	2.0:1	280	K4
CA218-4004	2.0 - 18.0	32	5.0	+/- 2.5	+17	+27	2.0:1	320	K4
CA218-4005	2.0 - 18.0	30	6.0	+/- 2.5	+20	+30	2.0:1	405	K4
CA218-4006	2.0 - 18.0	30	6.0	+/- 2.5	+22	+32	2.0:1	470	K4
CA218-4007	2.0 - 18.0	28	6.0	+/- 2.5	+24	+34	2.0:1	525	K4
CA218-4016	2.0 - 18.0	34	4.5	+/- 2.5	+10	+20	2.0:1	260	K4
CA218-4017	2.0 - 18.0	34	3.8	+/- 2.5	+10	+20	2.0:1	260	K4

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Ultra Broadband  
0.5-18.0 GHz

Ultra Broadband  
1.0-18.0 GHz

Ultra Broadband  
2.0-18.0 GHz



**RADAR, SATCOM, & COMMUNICATIONS BAND AMPLIFIERS:  
1.2 – 1.6 GHz, 2.2 – 2.3 GHz, 2.7 – 2.9 GHz, 3.7 – 4.2 GHz, and 4.4 – 5.0 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Radar, Satcom and Communications Band Amplifiers: 1.2 - 1.6 GHz</b>									
CA12-2202	1.2 - 1.6	22	1.2	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-3202	1.2 - 1.6	32	1.2	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-4202	1.2 - 1.6	42	1.2	+/- 0.5	+10	+20	2.0:1	130	FB2
CA12-2204	1.2 - 1.6	22	0.9	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA12-3204	1.2 - 1.6	32	0.9	+/- 0.5	+10	+20	2.0:1	100	FB2
CA12-4204	1.2 - 1.6	42	0.9	+/- 0.5	+10	+20	2.0:1	130	FB2
CA12-2210	1.2 - 1.6	20	2.0	+/- 0.5	+23	+33	2.0:1	230	LCFB1
CA12-2211	1.2 - 1.6	20	2.5	+/- 0.75	+27	+35	2.0:1	450	LCFB1
CA12-2212	1.2 - 1.6	20	2.8	+/- 0.75	+30	+38	2.0:1	600	LCFB1
CA12-3210	1.2 - 1.6	30	2.0	+/- 0.5	+23	+33	2.0:1	280	FB2
CA12-3211	1.2 - 1.6	30	2.5	+/- 0.75	+27	+35	2.0:1	500	FB2
CA12-3212	1.2 - 1.6	30	2.8	+/- 0.75	+30	+38	2.0:1	650	FB2
<b>Radar, Satcom and Communications Band Amplifiers: 2.2 - 2.3 GHz</b>									
CA23-2202	2.2 - 2.3	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA23-3202	2.2 - 2.3	32	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA23-4202	2.2 - 2.3	42	1.2	+/- 0.5	+10	+20	2.0:1	130	C4
CA23-2204	2.2 - 2.3	22	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-3204	2.2 - 2.3	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-4204	2.2 - 2.3	42	0.8	+/- 0.5	+10	+20	2.0:1	130	FB2
CA23-2210	2.2 - 2.3	20	2.0	+/- 0.5	+23	+33	2.0:1	230	C2
CA23-2211	2.2 - 2.3	20	2.5	+/- 0.5	+27	+35	2.0:1	450	C2
CA23-2212	2.2 - 2.3	20	2.8	+/- 0.5	+30	+38	2.0:1	600	C2
CA23-3210	2.2 - 2.3	30	2.0	+/- 0.5	+23	+33	2.0:1	280	C3
CA23-3211	2.2 - 2.3	30	2.5	+/- 0.5	+27	+35	2.0:1	500	C3
CA23-3212	2.2 - 2.3	30	2.8	+/- 0.5	+30	+38	2.0:1	650	C3
<b>Radar, Satcom and Communications Band Amplifiers: 2.7 - 2.9 GHz</b>									
CA23-2218	2.7 - 2.9	22	1.0	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-3218	2.7 - 2.9	32	1.0	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-4218	2.7 - 2.9	42	1.0	+/- 0.5	+10	+20	2.0:1	130	FB2
CA23-2219	2.7 - 2.9	22	0.8	+/- 0.5	+10	+20	2.0:1	70	LCFB1
CA23-3219	2.7 - 2.9	32	0.8	+/- 0.5	+10	+20	2.0:1	100	FB2
CA23-4219	2.7 - 2.9	42	0.8	+/- 0.5	+10	+20	2.0:1	130	FB2
CA23-2225	2.7 - 2.9	20	2.0	+/- 0.5	+23	+33	2.0:1	230	C2
CA23-2226	2.7 - 2.9	20	2.5	+/- 0.5	+27	+35	2.0:1	450	C2
CA23-2227	2.7 - 2.9	20	2.8	+/- 0.5	+30	+38	2.0:1	600	C2
CA23-3225	2.7 - 2.9	30	2.0	+/- 0.5	+23	+33	2.0:1	280	C3
CA23-3226	2.7 - 2.9	30	2.5	+/- 0.5	+27	+35	2.0:1	500	C3
CA23-3227	2.7 - 2.9	30	2.8	+/- 0.5	+30	+38	2.0:1	650	C3
<b>Radar, Satcom and Communications Band Amplifiers: 3.7 - 4.2 GHz</b>									
CA34-2033	3.7 - 4.2	22	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-3033	3.7 - 4.2	32	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-4033	3.7 - 4.2	42	1.5	+/- 0.5	+10	+20	2.0:1	130	C4
CA34-2035	3.7 - 4.2	22	1.0	+/- 0.5	+10	+20	2.0:1	70	C2
CA34-3035	3.7 - 4.2	32	1.0	+/- 0.5	+10	+20	2.0:1	100	C3
CA34-4035	3.7 - 4.2	42	1.0	+/- 0.5	+10	+20	2.0:1	130	C4
CA34-2041	3.7 - 4.2	20	2.5	+/- 0.5	+23	+33	2.0:1	230	C2
CA34-2042	3.7 - 4.2	20	2.7	+/- 0.5	+27	+35	2.0:1	450	C2
CA34-2043	3.7 - 4.2	20	3.0	+/- 0.5	+30	+38	2.0:1	600	C2
CA34-3041	3.7 - 4.2	30	2.5	+/- 0.5	+23	+33	2.0:1	280	C3
CA34-3042	3.7 - 4.2	30	2.7	+/- 0.5	+27	+35	2.0:1	500	C3
CA34-3043	3.7 - 4.2	30	3.0	+/- 0.5	+30	+38	2.0:1	650	C3
<b>Radar, Satcom and Communications Band Amplifiers: 4.4 - 5.0 GHz</b>									
CA45-2002	4.4 - 5.0	22	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA45-3002	4.4 - 5.0	32	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA45-4002	4.4 - 5.0	42	1.5	+/- 0.5	+10	+20	2.0:1	130	C4
CA45-2004	4.4 - 5.0	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA45-3004	4.4 - 5.0	32	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA45-4004	4.4 - 5.0	42	1.2	+/- 0.5	+10	+20	2.0:1	130	C4
CA45-2010	4.4 - 5.0	20	2.5	+/- 0.5	+23	+33	2.0:1	230	C2
CA45-2011	4.4 - 5.0	20	2.7	+/- 0.5	+27	+35	2.0:1	450	C2
CA45-2012	4.4 - 5.0	20	3.0	+/- 0.5	+30	+38	2.0:1	600	C2
CA45-3010	4.4 - 5.0	30	2.5	+/- 0.5	+23	+33	2.0:1	280	C3
CA45-3011	4.4 - 5.0	30	2.7	+/- 0.5	+27	+35	2.0:1	500	C3
CA45-3012	4.4 - 5.0	30	3.0	+/- 0.5	+30	+38	2.0:1	650	C3

Radar, Satcom, and Communications Band  
1.2-1.5 GHz

Radar, Satcom, and Communications Band  
2.2-2.3 GHz

Radar, Satcom, and Communications Band  
2.7-2.9 GHz

Radar, Satcom, and Communications Band  
3.7-4.2 GHz

Radar, Satcom, and Communications Band  
4.4-5.0 GHz

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.



**RADAR, SATCOM, & COMMUNICATIONS BAND AMPLIFIERS:  
5.4 – 5.9 GHz, 5.85 – 6.425 GHz, 7.25 – 7.75 GHz, 7.9 – 8.4 GHz and 9.0 – 9.5 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>5.5 - 5.9 GHz</b>				
CA56-2002	5.4 - 5.9	22	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA56-3002	5.4 - 5.9	32	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA56-4002	5.4 - 5.9	42	1.5	+/- 0.5	+10	+20	2.0:1	130	C4
CA56-2004	5.4 - 5.9	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA56-3004	5.4 - 5.9	32	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA56-4004	5.4 - 5.9	42	1.2	+/- 0.5	+10	+20	2.0:1	130	C4
CA56-2010	5.4 - 5.9	20	2.5	+/- 0.5	+23	+33	2.0:1	230	C2
CA56-2011	5.4 - 5.9	20	2.7	+/- 0.5	+27	+35	2.0:1	450	C2
CA56-2012	5.4 - 5.9	20	3.0	+/- 0.5	+30	+38	2.0:1	600	C2
CA56-3010	5.4 - 5.9	30	2.5	+/- 0.5	+23	+33	2.0:1	280	C3
CA56-3011	5.4 - 5.9	30	2.7	+/- 0.5	+27	+35	2.0:1	500	C3
CA56-3012	5.4 - 5.9	30	3.0	+/- 0.5	+30	+38	2.0:1	650	C3
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>5.85 - 6.425 GHz</b>				
CA56-2017	5.85 - 6.425	22	1.6	+/- 0.5	+10	+20	2.0:1	70	C2
CA56-3017	5.85 - 6.425	32	1.6	+/- 0.5	+10	+20	2.0:1	100	C3
CA56-4017	5.85 - 6.425	42	1.6	+/- 0.5	+10	+20	2.0:1	130	C4
CA56-2004	5.85 - 6.425	22	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA56-3004	5.85 - 6.425	32	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA56-4004	5.85 - 6.425	42	1.2	+/- 0.5	+10	+20	2.0:1	130	C4
CA56-2010	5.85 - 6.425	20	2.5	+/- 0.5	+23	+33	2.0:1	230	C2
CA56-2011	5.85 - 6.425	20	2.7	+/- 0.5	+27	+35	2.0:1	450	C2
CA56-2012	5.85 - 6.425	20	3.0	+/- 0.5	+30	+38	2.0:1	600	C2
CA56-3010	5.85 - 6.425	30	2.5	+/- 0.5	+23	+33	2.0:1	280	C3
CA56-3011	5.85 - 6.425	30	2.7	+/- 0.5	+27	+35	2.0:1	500	C3
CA56-3012	5.85 - 6.425	30	3.0	+/- 0.5	+30	+38	2.0:1	650	C3
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>7.25 - 7.75 GHz</b>				
CA78-2001	7.25 - 7.75	20	2.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA78-3001	7.25 - 7.75	30	2.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA78-4001	7.25 - 7.75	40	2.2	+/- 0.5	+10	+20	2.0:1	130	C4
CA78-2003	7.25 - 7.75	20	1.5	+/- 0.5	+10	+20	2.0:1	70	C2
CA78-3003	7.25 - 7.75	30	1.5	+/- 0.5	+10	+20	2.0:1	100	C3
CA78-4003	7.25 - 7.75	40	1.5	+/- 0.5	+10	+20	2.0:1	130	C4
CA78-2004	7.25 - 7.75	20	1.2	+/- 0.5	+10	+20	2.0:1	70	C2
CA78-3004	7.25 - 7.75	30	1.2	+/- 0.5	+10	+20	2.0:1	100	C3
CA78-4004	7.25 - 7.75	40	1.2	+/- 0.5	+10	+20	2.0:1	130	C4
CA78-3010	7.25 - 7.75	30	3.0	+/- 0.5	+23	+33	2.0:1	340	C3
CA78-3011	7.25 - 7.75	28	4.0	+/- 0.5	+27	+35	2.0:1	535	C3
CA78-3012	7.25 - 7.75	26	5.0	+/- 0.5	+30	+38	2.0:1	650	C3
CA78-4010	7.25 - 7.75	40	3.0	+/- 0.5	+23	+33	2.0:1	500	C4
CA78-4011	7.25 - 7.75	38	4.0	+/- 0.5	+27	+35	2.0:1	635	C4
CA78-4012	7.25 - 7.75	36	5.0	+/- 0.5	+30	+38	2.0:1	750	C4
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>7.9 - 8.4 GHz</b>				
CA78-2017	7.9 - 8.4	20	1.8	+/- 0.5	+10	+20	2.0:1	90	XK2
CA78-3017	7.9 - 8.4	30	1.8	+/- 0.5	+10	+20	2.0:1	130	XK3
CA78-4017	7.9 - 8.4	40	1.8	+/- 0.5	+10	+20	2.0:1	180	XK4
CA78-2019	7.9 - 8.4	20	1.2	+/- 0.5	+10	+20	2.0:1	90	XK2
CA78-3019	7.9 - 8.4	30	1.2	+/- 0.5	+10	+20	2.0:1	130	XK3
CA78-4019	7.9 - 8.4	40	1.2	+/- 0.5	+10	+20	2.0:1	180	XK4
CA78-2025	7.9 - 8.4	19	3.0	+/- 0.5	+23	+33	2.0:1	300	XK2
CA78-2026	7.9 - 8.4	18	4.0	+/- 0.5	+27	+35	2.0:1	550	XK2
CA78-2027	7.9 - 8.4	17	5.0	+/- 0.5	+30	+38	2.0:1	650	XK3
CA78-3025	7.9 - 8.4	29	3.0	+/- 0.5	+23	+33	2.0:1	500	XK3
CA78-3026	7.9 - 8.4	28	4.0	+/- 0.5	+27	+35	2.0:1	650	XK3
CA78-3027	7.9 - 8.4	27	5.0	+/- 0.5	+30	+38	2.0:1	800	XK4
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>9.0 - 9.5 GHz</b>				
CA910-2002	9.0 - 9.5	20	2.0	+/- 0.5	+10	+20	2.0:1	90	XK2
CA910-3002	9.0 - 9.5	30	2.0	+/- 0.5	+10	+20	2.0:1	130	XK3
CA910-4002	9.0 - 9.5	40	2.0	+/- 0.5	+10	+20	2.0:1	180	XK4
CA910-2004	9.0 - 9.5	20	1.4	+/- 0.5	+10	+20	2.0:1	90	XK2
CA910-3004	9.0 - 9.5	30	1.4	+/- 0.5	+10	+20	2.0:1	130	XK3
CA910-4004	9.0 - 9.5	40	1.4	+/- 0.5	+10	+20	2.0:1	180	XK4
CA910-3010	9.0 - 9.5	29	3.0	+/- 0.5	+23	+33	2.0:1	500	XK3
CA910-3011	9.0 - 9.5	28	4.0	+/- 0.5	+27	+35	2.0:1	650	XK3
CA910-3012	9.0 - 9.5	27	5.0	+/- 0.5	+30	+38	2.0:1	800	XK4
CA910-4010	9.0 - 9.5	39	3.0	+/- 0.5	+23	+33	2.0:1	620	XK4
CA910-4011	9.0 - 9.5	38	4.0	+/- 0.5	+27	+35	2.0:1	800	XK4
CA910-4012	9.0 - 9.5	37	5.0	+/- 0.5	+30	+38	2.0:1	950	XK6

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO.  
Please visit our web site for a complete listing of all models.

4000 Via Pescador / Camarillo, CA 93012 / Phone: (805) 389-3224 / Fax: (805) 389-3629  
www.ciaowireless.com / e-mail: sales@ciaowireless.com

Radar, Satcom, and  
Communications Band  
5.4-5.9GHz

Radar, Satcom, and  
Communications Band  
5.85-6.425GHz

Radar, Satcom, and  
Communications Band  
7.25-7.75GHz

Radar, Satcom, and  
Communications Band  
7.9-8.4GHz

Radar, Satcom, and  
Communications Band  
9.0-9.5GHz



**RADAR, SATCOM, & COMMUNICATIONS BAND AMPLIFIERS:**  
**9.5 – 10.0 GHz, 9.0 – 10.6 GHz, 10.7 – 11.2 GHz, 11.7 – 12.2 GHz, 12.2 – 12.7 GHz, and 12.7 – 13.2 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Radars, Satcom and Communications Band Amplifiers: 9.5 - 10.0 GHz</b>									
CA910-2017	9.5 - 10.0	20	2.0	+/- 0.5	+10	+20	2.0:1	90	XK2
CA910-3017	9.5 - 10.0	30	2.0	+/- 0.5	+10	+20	2.0:1	130	XK3
CA910-4017	9.5 - 10.0	40	2.0	+/- 0.5	+10	+20	2.0:1	180	XK4
CA910-2019	9.5 - 10.0	20	1.4	+/- 0.5	+10	+20	2.0:1	90	XK2
CA910-3019	9.5 - 10.0	30	1.4	+/- 0.5	+10	+20	2.0:1	130	XK3
CA910-4019	9.5 - 10.0	40	1.4	+/- 0.5	+10	+20	2.0:1	180	XK4
CA910-3025	9.5 - 10.0	29	3.0	+/- 0.5	+23	+33	2.0:1	500	XK3
CA910-3026	9.5 - 10.0	28	4.0	+/- 0.5	+27	+35	2.0:1	650	XK3
CA910-3027	9.5 - 10.0	27	5.0	+/- 0.5	+30	+38	2.0:1	800	XK4
CA910-4025	9.5 - 10.0	39	3.0	+/- 0.5	+23	+33	2.0:1	620	XK4
CA910-4026	9.5 - 10.0	38	4.0	+/- 0.5	+27	+35	2.0:1	800	XK4
CA910-4027	9.5 - 10.0	37	5.0	+/- 0.5	+30	+38	2.0:1	950	XK6
<b>Radars, Satcom and Communications Band Amplifiers: 9.0 - 10.6 GHz</b>									
CA910-2032	9.0 - 10.6	20	2.5	+/- 1.0	+10	+20	2.0:1	90	XK2
CA910-3032	9.0 - 10.6	30	2.5	+/- 1.0	+10	+20	2.0:1	130	XK3
CA910-4032	9.0 - 10.6	40	2.5	+/- 1.0	+10	+20	2.0:1	180	XK4
CA910-2034	9.0 - 10.6	20	1.6	+/- 1.0	+10	+20	2.0:1	90	XK2
CA910-3034	9.0 - 10.6	30	1.6	+/- 1.0	+10	+20	2.0:1	130	XK3
CA910-4034	9.0 - 10.6	40	1.6	+/- 1.0	+10	+20	2.0:1	180	XK4
CA910-3040	9.0 - 10.6	29	3.0	+/- 1.0	+23	+33	2.0:1	500	XK3
CA910-3041	9.0 - 10.6	28	4.0	+/- 1.0	+27	+35	2.0:1	650	XK3
CA910-3042	9.0 - 10.6	27	5.0	+/- 1.0	+30	+38	2.0:1	800	XK4
CA910-4040	9.0 - 10.6	39	3.0	+/- 1.0	+23	+33	2.0:1	620	XK4
CA910-4041	9.0 - 10.6	38	4.0	+/- 1.0	+27	+35	2.0:1	800	XK4
CA910-4042	9.0 - 10.6	37	5.0	+/- 1.0	+30	+38	2.0:1	950	XK6
<b>Radars, Satcom and Communications Band Amplifiers: 10.7 - 11.2 GHz</b>									
CA1011-2002	10.7 - 11.2	20	2.5	+/- 0.5	+10	+20	2.0:1	90	K3
CA1011-3002	10.7 - 11.2	30	2.5	+/- 0.5	+10	+20	2.0:1	130	K4
CA1011-2004	10.7 - 11.2	20	1.6	+/- 0.5	+10	+20	2.0:1	90	K3
CA1011-3004	10.7 - 11.2	30	1.6	+/- 0.5	+10	+20	2.0:1	130	K4
CA1011-3010	10.7 - 11.2	29	3.0	+/- 0.5	+23	+33	2.0:1	500	K4
CA1011-3011	10.7 - 11.2	28	4.0	+/- 0.5	+27	+35	2.0:1	650	K4
CA1011-3012	10.7 - 11.2	27	5.0	+/- 0.5	+30	+38	2.0:1	800	K4
<b>Radars, Satcom and Communications Band Amplifiers: 11.7 - 12.2 GHz</b>									
CA1112-2002	11.7 - 12.2	20	2.5	+/- 0.5	+10	+20	2.0:1	90	K3
CA1112-3002	11.7 - 12.2	30	2.5	+/- 0.5	+10	+20	2.0:1	130	K4
CA1112-2004	11.7 - 12.2	20	1.6	+/- 0.5	+10	+20	2.0:1	90	K3
CA1112-3004	11.7 - 12.2	30	1.6	+/- 0.5	+10	+20	2.0:1	130	K4
CA1112-3010	11.7 - 12.2	29	3.0	+/- 0.5	+23	+33	2.0:1	500	K4
CA1112-3011	11.7 - 12.2	28	4.0	+/- 0.5	+27	+35	2.0:1	650	K4
CA1112-3012	11.7 - 12.2	27	5.0	+/- 0.5	+30	+38	2.0:1	800	K4
<b>Radars, Satcom and Communications Band Amplifiers: 12.2 - 12.7 GHz</b>									
CA1213-2002	12.2 - 12.7	20	2.5	+/- 0.5	+10	+20	2.0:1	70	K3
CA1213-3002	12.2 - 12.7	30	2.5	+/- 0.5	+10	+20	2.0:1	100	K4
CA1213-4002	12.2 - 12.7	40	2.5	+/- 0.5	+10	+20	2.0:1	130	K6
CA1213-2004	12.2 - 12.7	20	1.6	+/- 0.5	+10	+20	2.0:1	70	K3
CA1213-3004	12.2 - 12.7	30	1.6	+/- 0.5	+10	+20	2.0:1	100	K4
CA1213-4004	12.2 - 12.7	40	1.6	+/- 0.5	+10	+20	2.0:1	130	K6
CA1213-3010	12.2 - 12.7	29	3.0	+/- 0.5	+23	+33	2.0:1	340	K4
CA1213-3011	12.2 - 12.7	28	4.0	+/- 1.0	+27	+35	2.0:1	535	K4
CA1213-3012	12.2 - 12.7	27	5.0	+/- 1.0	+30	+38	2.0:1	650	K4
CA1213-4010	12.2 - 12.7	39	3.0	+/- 0.5	+23	+33	2.0:1	500	K6
CA1213-4011	12.2 - 12.7	38	4.0	+/- 1.0	+27	+35	2.0:1	635	K6
CA1213-4012	12.2 - 12.7	37	5.0	+/- 1.0	+30	+38	2.0:1	750	K6
<b>Radars, Satcom and Communications Band Amplifiers: 12.7 - 13.2 GHz</b>									
CA1213-2017	12.7 - 13.2	20	2.5	+/- 0.5	+10	+20	2.0:1	70	K3
CA1213-3017	12.7 - 13.2	30	2.5	+/- 0.5	+10	+20	2.0:1	100	K4
CA1213-4017	12.7 - 13.2	40	2.5	+/- 0.5	+10	+20	2.0:1	130	K6
CA1213-2019	12.7 - 13.2	20	1.6	+/- 0.5	+10	+20	2.0:1	70	K3
CA1213-3019	12.7 - 13.2	30	1.6	+/- 0.5	+10	+20	2.0:1	100	K4
CA1213-4019	12.7 - 13.2	40	1.6	+/- 0.5	+10	+20	2.0:1	130	K6
CA1213-3025	12.7 - 13.2	29	3.0	+/- 0.5	+23	+33	2.0:1	340	K4
CA1213-3026	12.7 - 13.2	28	4.0	+/- 1.0	+27	+35	2.0:1	535	K4
CA1213-3027	12.7 - 13.2	27	5.0	+/- 1.0	+30	+38	2.0:1	650	K4
CA1213-4025	12.7 - 13.2	39	3.0	+/- 0.5	+23	+33	2.0:1	500	K6
CA1213-4026	12.7 - 13.2	38	4.0	+/- 1.0	+27	+35	2.0:1	635	K6
CA1213-4027	12.7 - 13.2	37	5.0	+/- 1.0	+30	+38	2.0:1	750	K6

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

4000 Via Pescador / Camarillo, CA 93012 / Phone: (805) 389-3224 / Fax: (805) 389-3629  
[www.ciaowireless.com](http://www.ciaowireless.com) / e-mail: [sales@ciaowireless.com](mailto:sales@ciaowireless.com)

Radars, Satcom, and Communications Band 9.5-10.0 GHz

Radars, Satcom, and Communications Band 9.0-10.6 GHz

Radars, Satcom, and Communications Band 10.7-11.2 GHz

Radars, Satcom, and Communications Band 11.7-12.2 GHz

Radars, Satcom, and Communications Band 12.2-12.7 GHz

Radars, Satcom, and Communications Band 12.7-13.2 GHz



**RADAR, SATCOM, & COMMUNICATIONS BAND AMPLIFIERS:  
13.75 – 14.5 GHz, 14.0 – 14.5 GHz, 13.75 – 15.4 GHz, and 17.7 – 18.3 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>13.75 - 14.5 GHz</b>				
CA1314-2001	13.75 - 14.5	20	2.5	+/- 0.5	+10	+20	2.0:1	70	K3
CA1314-3001	13.75 - 14.5	30	2.5	+/- 0.5	+10	+20	2.0:1	100	K4
CA1314-4001	13.75 - 14.5	40	2.5	+/- 0.5	+10	+20	2.0:1	130	K6
CA1314-2003	13.75 - 14.5	20	1.8	+/- 0.5	+10	+20	2.0:1	70	K3
CA1314-3003	13.75 - 14.5	30	1.8	+/- 0.5	+10	+20	2.0:1	100	K4
CA1314-4003	13.75 - 14.5	40	1.8	+/- 0.5	+10	+20	2.0:1	130	K6
CA1314-2004	13.75 - 14.5	20	1.6	+/- 0.5	+10	+20	2.0:1	70	K3
CA1314-3004	13.75 - 14.5	30	1.6	+/- 0.5	+10	+20	2.0:1	100	K4
CA1314-4004	13.75 - 14.5	40	1.6	+/- 0.5	+10	+20	2.0:1	130	K6
CA1314-3010	13.75 - 14.5	26	3.0	+/- 0.5	+23	+33	2.0:1	340	K4
CA1314-3011	13.75 - 14.5	24	4.0	+/- 1.0	+27	+35	2.0:1	535	K4
CA1314-3012	13.75 - 14.5	23	5.0	+/- 1.0	+30	+38	2.0:1	650	K4
CA1314-4010	13.75 - 14.5	35	3.0	+/- 0.5	+23	+33	2.0:1	500	K6
CA1314-4011	13.75 - 14.5	33	4.0	+/- 1.0	+27	+35	2.0:1	635	K6
CA1314-4012	13.75 - 14.5	32	5.0	+/- 1.0	+30	+38	2.0:1	750	K6
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>14.0 - 14.5 GHz</b>				
CA1415-2001	14.0 - 14.5	20	2.5	+/- 0.5	+10	+20	2.0:1	70	K3
CA1415-3001	14.0 - 14.5	30	2.5	+/- 0.5	+10	+20	2.0:1	100	K4
CA1415-4001	14.0 - 14.5	40	2.5	+/- 0.5	+10	+20	2.0:1	130	K6
CA1415-2003	14.0 - 14.5	20	1.8	+/- 0.5	+10	+20	2.0:1	70	K3
CA1415-3003	14.0 - 14.5	30	1.8	+/- 0.5	+10	+20	2.0:1	100	K4
CA1415-4003	14.0 - 14.5	40	1.8	+/- 0.5	+10	+20	2.0:1	130	K6
CA1415-2004	14.0 - 14.5	20	1.6	+/- 0.5	+10	+20	2.0:1	70	K3
CA1415-3004	14.0 - 14.5	30	1.6	+/- 0.5	+10	+20	2.0:1	100	K4
CA1415-4004	14.0 - 14.5	40	1.6	+/- 0.5	+10	+20	2.0:1	130	K6
CA1415-3010	14.0 - 14.5	26	4.0	+/- 0.5	+23	+33	2.0:1	340	K3
CA1415-3011	14.0 - 14.5	24	5.0	+/- 1.0	+27	+35	2.0:1	535	K3
CA1415-3012	14.0 - 14.5	23	6.0	+/- 1.0	+30	+38	2.0:1	650	K3
CA1415-4010	14.0 - 14.5	35	4.0	+/- 0.5	+23	+33	2.0:1	500	K4
CA1415-4011	14.0 - 14.5	33	5.0	+/- 1.0	+27	+35	2.0:1	635	K4
CA1415-4012	14.0 - 14.5	32	6.0	+/- 1.0	+30	+38	2.0:1	750	K4
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>13.75 - 15.4 GHz</b>				
CA1315-2001	13.75 - 15.4	20	3.0	+/- 1.0	+10	+20	2.0:1	70	K2
CA1315-3001	13.75 - 15.4	30	3.0	+/- 1.0	+10	+20	2.0:1	100	K3
CA1315-4001	13.75 - 15.4	40	3.0	+/- 1.0	+10	+20	2.0:1	130	K4
CA1315-2003	13.75 - 15.4	20	1.8	+/- 1.0	+10	+20	2.0:1	70	K2
CA1315-3003	13.75 - 15.4	30	1.8	+/- 1.0	+10	+20	2.0:1	100	K3
CA1315-4003	13.75 - 15.4	40	1.8	+/- 1.0	+10	+20	2.0:1	130	K4
CA1315-3008	13.75 - 15.4	25	2.8	+/- 1.0	+17	+27	2.0:1	180	K3
CA1315-3009	13.75 - 15.4	25	3.0	+/- 1.0	+20	+30	2.0:1	280	K3
CA1315-3010	13.75 - 15.4	24	4.0	+/- 1.0	+23	+33	2.0:1	340	K3
CA1315-3011	13.75 - 15.4	22	5.0	+/- 1.0	+27	+35	2.0:1	535	K3
CA1315-3012	13.75 - 15.4	21	6.0	+/- 1.0	+30	+38	2.0:1	650	K3
CA1315-4008	13.75 - 15.4	32	2.8	+/- 1.0	+17	+27	2.0:1	230	K4
CA1315-4009	13.75 - 15.4	32	3.0	+/- 1.0	+20	+30	2.0:1	360	K4
CA1315-4010	13.75 - 15.4	31	4.0	+/- 1.0	+23	+33	2.0:1	500	K4
CA1315-4011	13.75 - 15.4	29	5.0	+/- 1.0	+27	+35	2.0:1	635	K4
CA1315-4012	13.75 - 15.4	28	6.0	+/- 1.0	+30	+38	2.0:1	750	K4
<b>Radar, Satcom and Communications Band Amplifiers:</b>					<b>17.7 - 18.3 GHz</b>				
CA1718-2001	17.7 - 18.3	15	3.0	+/- 0.5	+10	+20	2.0:1	70	K2
CA1718-3001	17.7 - 18.3	23	3.0	+/- 0.5	+10	+20	2.0:1	100	K3
CA1718-4001	17.7 - 18.3	31	3.0	+/- 0.5	+10	+20	2.0:1	130	K4
CA1718-2003	17.7 - 18.3	15	2.0	+/- 0.5	+10	+20	2.0:1	70	K2
CA1718-3003	17.7 - 18.3	23	2.0	+/- 0.5	+10	+20	2.0:1	100	K3
CA1718-4003	17.7 - 18.3	31	2.0	+/- 0.5	+10	+20	2.0:1	130	K4
CA1718-3008	17.7 - 18.3	21	2.8	+/- 0.5	+17	+27	2.0:1	180	K3
CA1718-3009	17.7 - 18.3	21	3.0	+/- 0.5	+20	+30	2.0:1	280	K3
CA1718-3010	17.7 - 18.3	21	4.0	+/- 0.5	+23	+33	2.0:1	340	K3
CA1718-3011	17.7 - 18.3	20	5.0	+/- 1.0	+27	+35	2.0:1	535	K3
CA1718-4008	17.7 - 18.3	28	2.8	+/- 0.5	+17	+27	2.0:1	230	K4
CA1718-4009	17.7 - 18.3	28	3.0	+/- 0.5	+20	+30	2.0:1	360	K4
CA1718-4010	17.7 - 18.3	28	4.0	+/- 0.5	+23	+33	2.0:1	500	K4
CA1718-4011	17.7 - 18.3	27	5.0	+/- 1.0	+27	+35	2.0:1	650	K4

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO.  
Please visit our web site for a complete listing of all models.

Radar, Satcom, and Communications Band 13.75-14.5 GHz

Radar, Satcom, and Communications Band 14.0-14.5 GHz

Radar, Satcom, and Communications Band 13.75-15.4 GHz

Radar, Satcom, and Communications Band 17.7-18.3 GHz



**RADAR, SATCOM, & COMMUNICATIONS BAND AMPLIFIERS:  
17.7 – 19.7 GHz, 17.0 – 22.0 GHz, 19.2 – 20.2 GHz, and 20.2 – 21.2 GHz**

Model Number	Frequency Range GHz	Gain dB (min)	Noise Figure dB(max)	Gain Flatness +/-dB	1 dB Comp. Point dBm (min)	3rd Order IP dBm (TYP)	VSWR In & Out (Max)	DC Current at +15 VDC mA (typ)	Package Type
<b>Radar, Satcom and Communications Band Amplifiers: 17.7 - 19.7 GHz</b>									
CA1719-4001	17.7 - 19.7	23	3.5	+/- 1.0	+10	+20	2.0:1	200	Q4
CA1719-5001	17.7 - 19.7	31	3.5	+/- 1.0	+10	+20	2.0:1	250	Q6
CA1719-4003	17.7 - 19.7	23	3.0	+/- 1.0	+10	+20	2.0:1	200	Q4
CA1719-5003	17.7 - 19.7	31	3.0	+/- 1.0	+10	+20	2.0:1	250	Q6
CA1719-4008	17.7 - 19.7	21	4.0	+/- 1.0	+15	+25	2.0:1	230	Q4
CA1719-4009	17.7 - 19.7	21	4.0	+/- 1.0	+17	+27	2.0:1	260	Q4
CA1719-4010	17.7 - 19.7	21	4.0	+/- 1.0	+20	+30	2.0:1	325	Q4
CA1719-4011	17.7 - 19.7	20	5.0	+/- 1.0	+22	+32	2.0:1	385	Q4
CA1719-4012	17.7 - 19.7	19	6.0	+/- 1.0	+24	+33	2.0:1	450	Q4
CA1719-5008	17.7 - 19.7	28	4.0	+/- 1.0	+15	+25	2.0:1	280	Q6
CA1719-5009	17.7 - 19.7	28	4.0	+/- 1.0	+17	+27	2.0:1	310	Q6
CA1719-5010	17.7 - 19.7	28	4.0	+/- 1.0	+20	+30	2.0:1	375	Q6
CA1719-5011	17.7 - 19.7	27	5.0	+/- 1.0	+22	+32	2.0:1	435	Q6
CA1719-5012	17.7 - 19.7	26	6.0	+/- 1.0	+24	+33	2.0:1	500	Q6
<b>Radar, Satcom and Communications Band Amplifiers: 17.0 - 22.0 GHz</b>									
CA1722-3001	17.0 - 22.0	18	4.0	+/- 1.0	+10	+20	2.0:1	150	Q3
CA1722-4001	17.0 - 22.0	24	4.0	+/- 1.0	+10	+20	2.0:1	200	Q4
CA1722-5001	17.0 - 22.0	30	4.0	+/- 1.0	+10	+20	2.0:1	250	Q6
CA1722-3005	17.0 - 22.0	18	3.0	+/- 1.0	+10	+20	2.0:1	150	Q3
CA1722-4005	17.0 - 22.0	24	3.0	+/- 1.0	+10	+20	2.0:1	200	Q4
CA1722-5005	17.0 - 22.0	30	3.0	+/- 1.0	+10	+20	2.0:1	250	Q6
CA1722-3008	17.0 - 22.0	18	4.0	+/- 1.0	+15	+25	2.0:1	180	Q3
CA1722-3009	17.0 - 22.0	17	4.0	+/- 1.0	+17	+27	2.0:1	210	Q3
CA1722-3010	17.0 - 22.0	16	5.0	+/- 1.0	+20	+30	2.0:1	275	Q3
CA1722-3011	17.0 - 22.0	15	5.0	+/- 1.0	+22	+32	2.0:1	335	Q3
CA1722-4008	17.0 - 22.0	24	4.0	+/- 1.0	+15	+25	2.0:1	230	Q4
CA1722-4009	17.0 - 22.0	23	4.0	+/- 1.0	+17	+27	2.0:1	260	Q4
CA1722-4010	17.0 - 22.0	22	5.0	+/- 1.0	+20	+30	2.0:1	325	Q4
CA1722-4011	17.0 - 22.0	21	5.0	+/- 1.0	+22	+32	2.0:1	385	Q4
CA1722-5008	17.0 - 22.0	30	4.0	+/- 1.0	+15	+25	2.0:1	280	Q6
CA1722-5009	17.0 - 22.0	29	4.0	+/- 1.0	+17	+27	2.0:1	310	Q6
CA1722-5010	17.0 - 22.0	28	5.0	+/- 1.0	+20	+30	2.0:1	375	Q6
CA1722-5011	17.0 - 22.0	27	5.0	+/- 1.0	+22	+32	2.0:1	435	Q6
<b>Radar, Satcom and Communications Band Amplifiers: 19.2 - 20.2 GHz</b>									
CA1920-3001	19.2 - 20.2	22	3.0	+/- 0.5	+10	+20	2.0:1	150	Q3
CA1920-4001	19.2 - 20.2	30	3.0	+/- 0.5	+10	+20	2.0:1	200	Q4
CA1920-5001	19.2 - 20.2	38	3.0	+/- 0.5	+10	+20	2.0:1	250	Q6
CA1920-3005	19.2 - 20.2	22	2.5	+/- 0.5	+10	+20	2.0:1	150	Q3
CA1920-4005	19.2 - 20.2	30	2.5	+/- 0.5	+10	+20	2.0:1	200	Q4
CA1920-5005	19.2 - 20.2	38	2.5	+/- 0.5	+10	+20	2.0:1	250	Q6
CA1920-3008	19.2 - 20.2	22	3.5	+/- 1.0	+15	+25	2.0:1	180	Q3
CA1920-3009	19.2 - 20.2	21	4.0	+/- 1.0	+17	+27	2.0:1	210	Q3
CA1920-3010	19.2 - 20.2	20	4.0	+/- 1.0	+20	+30	2.0:1	275	Q3
CA1920-3011	19.2 - 20.2	18	5.0	+/- 1.0	+22	+32	2.0:1	335	Q3
CA1920-3012	19.2 - 20.2	16	5.0	+/- 1.0	+24	+33	2.0:1	400	Q3
CA1920-4008	19.2 - 20.2	30	3.5	+/- 1.0	+15	+25	2.0:1	230	Q4
CA1920-4009	19.2 - 20.2	29	4.0	+/- 1.0	+17	+27	2.0:1	260	Q4
CA1920-4010	19.2 - 20.2	28	4.0	+/- 1.0	+20	+30	2.0:1	325	Q4
CA1920-4011	19.2 - 20.2	26	5.0	+/- 1.0	+22	+32	2.0:1	385	Q4
CA1920-4012	19.2 - 20.2	24	5.0	+/- 1.0	+24	+33	2.0:1	450	Q4
<b>Radar, Satcom and Communications Band Amplifiers: 20.2 - 21.2 GHz</b>									
CA2021-3001	20.2 - 21.2	22	3.0	+/- 0.5	+10	+20	2.0:1	225	Q3
CA2021-4001	20.2 - 21.2	30	3.0	+/- 0.5	+10	+20	2.0:1	275	Q4
CA2021-5001	20.2 - 21.2	38	3.0	+/- 0.5	+10	+20	2.0:1	325	Q6
CA2021-3007	20.2 - 21.2	22	2.2	+/- 0.5	+10	+20	2.0:1	225	Q3
CA2021-4007	20.2 - 21.2	30	2.2	+/- 0.5	+10	+20	2.0:1	275	Q4
CA2021-5007	20.2 - 21.2	38	2.2	+/- 0.5	+10	+20	2.0:1	325	Q6
CA2021-3010	20.2 - 21.2	22	3.5	+/- 1.0	+15	+25	2.0:1	300	Q3
CA2021-3011	20.2 - 21.2	21	4.0	+/- 1.0	+17	+27	2.0:1	350	Q3
CA2021-3012	20.2 - 21.2	20	4.0	+/- 1.0	+20	+30	2.0:1	400	Q3
CA2021-3013	20.2 - 21.2	18	5.0	+/- 1.0	+22	+32	2.0:1	475	Q3
CA2021-3014	20.2 - 21.2	16	5.0	+/- 1.0	+24	+33	2.0:1	550	Q3
CA2021-4010	20.2 - 21.2	30	3.5	+/- 1.0	+15	+25	2.0:1	350	Q4
CA2021-4011	20.2 - 21.2	29	4.0	+/- 1.0	+17	+27	2.0:1	400	Q4
CA2021-4012	20.2 - 21.2	28	4.0	+/- 1.0	+20	+30	2.0:1	450	Q4
CA2021-4013	20.2 - 21.2	26	5.0	+/- 1.0	+22	+32	2.0:1	525	Q4
CA2021-4014	20.2 - 21.2	24	5.0	+/- 1.0	+24	+33	2.0:1	600	Q4

All of the above models can be modified to meet your frequency, noise figure, gain, and power output requirements. Typical delivery in 2 weeks ARO. Please visit our web site for a complete listing of all models.

Radar, Satcom and Communication Band 17.7-19.7 GHz

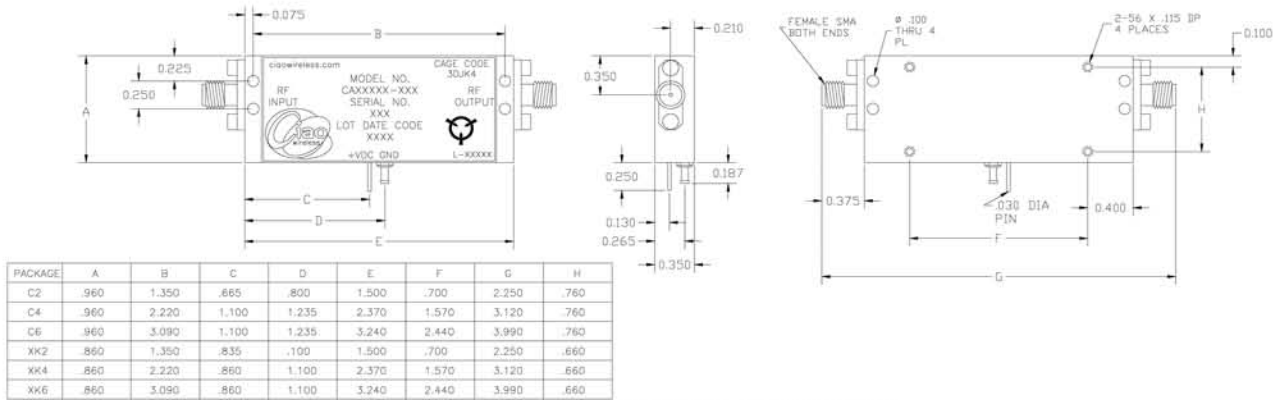
Radar, Satcom and Communication Band 17.0-22.0 GHz

Radar, Satcom and Communication Band 19.2-20.2 GHz

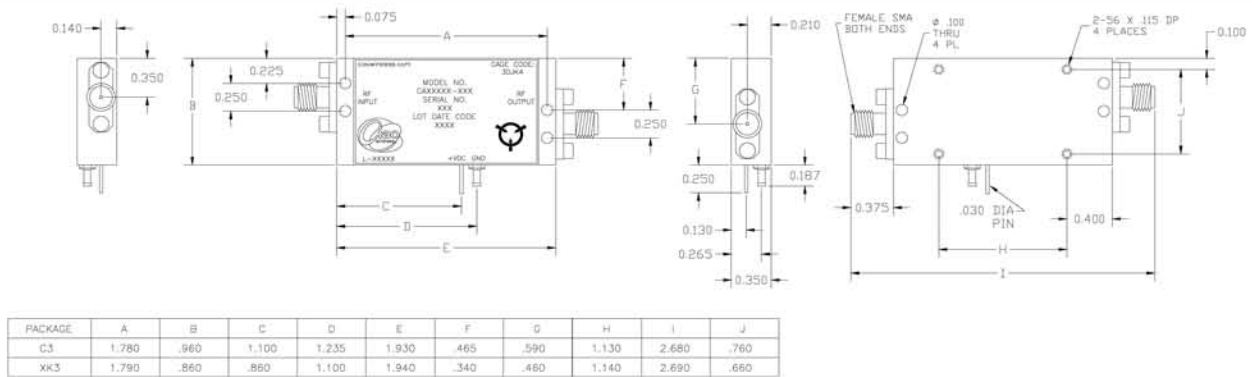
Radar, Satcom and Communication Band 20.2-21.2 GHz

## CIAO WIRELESS' STANDARD OUTLINE DRAWINGS FOR RF AMPLIFIERS (ICD's):

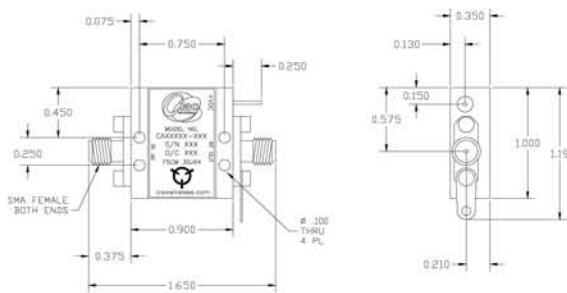
### CIAO WIRELESS STANDARD AMPLIFIER OUTLINE DRAWINGS



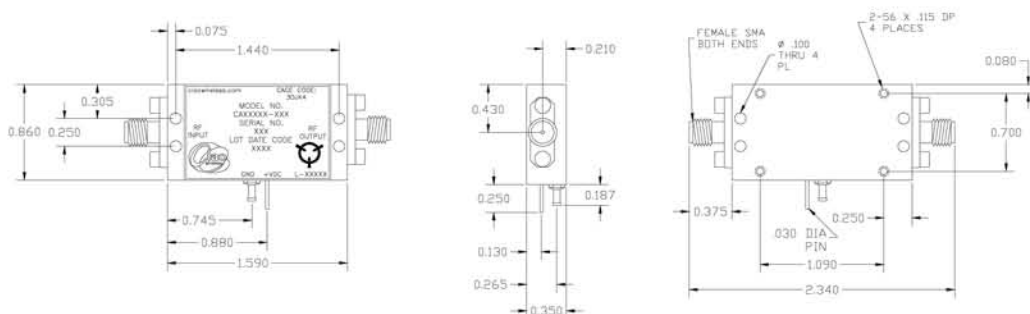
OUTLINE DRAWINGS FOR C AND XK PACKAGES



OUTLINE DRAWINGS FOR C3 AND XK PACKAGES



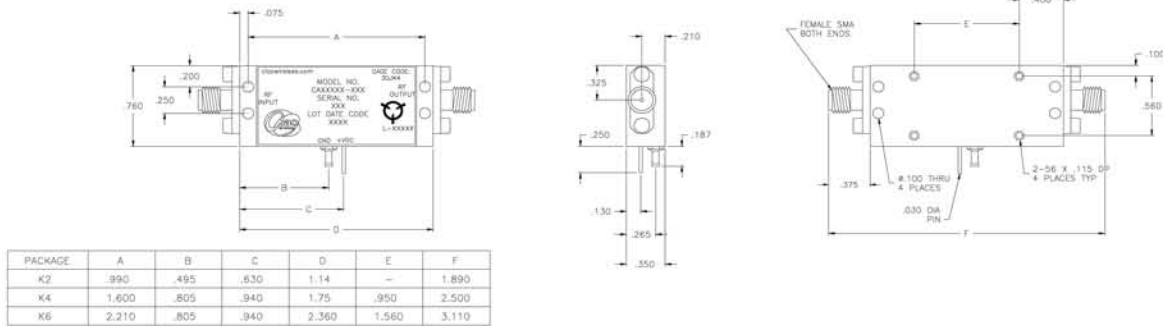
OUTLINE DRAWINGS FOR LCFB1 PACKAGES



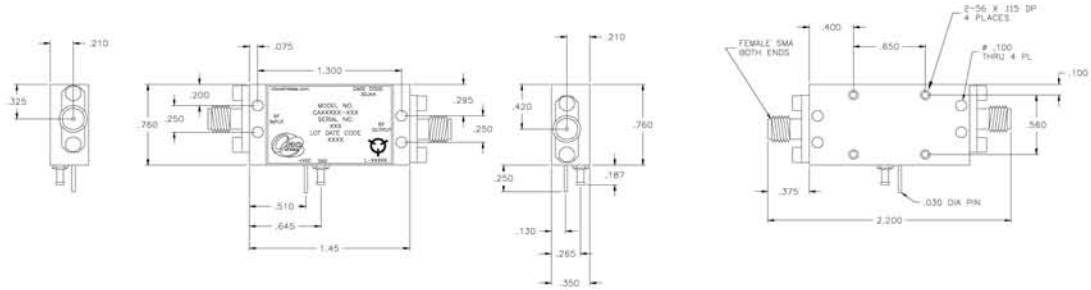


## CIAO WIRELESS' STANDARD OUTLINE DRAWINGS FOR RF AMPLIFIERS (ICD's):

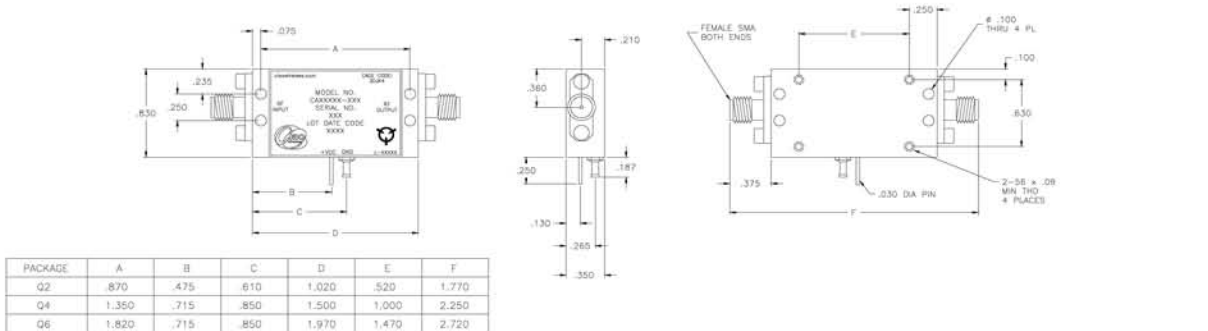
### CIAO WIRELESS STANDARD AMPLIFIER OUTLINE DRAWINGS



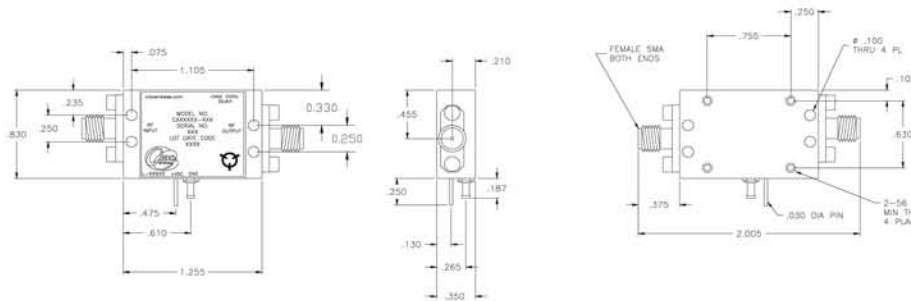
OUTLINE DRAWINGS FOR K PACKAGES



OUTLINE DRAWINGS FOR K3 PACKAGES



OUTLINE DRAWINGS FOR Q PACKAGES



OUTLINE DRAWINGS FOR Q3 PACKAGES



## RADIAL POWER COMBINERS AND RADIAL POWER DIVIDERS

### GENERAL OVERVIEW

Ciao Wireless features a full product line of **Radial Power Combiners and Radial Power Dividers** from frequency ranges that begin at UHF up through KU-Band, with N-Way options available from 4:1 through 90:1.

With today's demands for increased power levels in all applications, whether it be EW/ECM, Contemporary Radar and Phased Arrays, and Communications Systems, the **Radial Power Combiners/Dividers** offered by Ciao can provide the commercial, technical, and reliability solutions required in order to meet any program needs.

While Ciao offers a broad variety of catalog models, most units shipped are built fully customized to meet individual customers' unique requirements.

### TECHNICAL AND COMMERCIAL ADVANTAGES

Radial Power Combiners and Dividers offer many advantages to the customer. These advantages include:



Integrated 50:1 RPC & 50:1 RPD unit, S-Band, 0.25 dB typ loss.

- Allow for higher frequency of operation
- Improved reliability through a Solid-State approach
- Low maintenance and ease of use
- Low recurring costs and typically little or no special design costs
- Quick development cycles

### HOT REPLACEMENT

Radial Power Combiners and Dividers allow an amplifier system to remain on the air should one or more amplifier modules fail. And, "hot replacement" of failed amplifiers is permitted while the system remains in operation, assuming that the customer has the appropriate equipment available to accommodate this action. In addition, RPC/RPD's are tolerant to amplifier phase and amplitude mismatches, of which, the effects can be accurately simulated.



### PROVEN DESIGN TECHNIQUES

Ciao Wireless Radial Power Combiner/Divider units are N-Way, in-phase, non-resonant radial transmission line structures. They combine or divide in a single step. This means that **Ciao's RPC/RPD units have inherently lower losses than those of corporate structures such as binary trees of Wilkinson combiners.** In addition, and unlike most corporate combiners, **Radial Combining orders NEED NOT BE BINARY multiples.**

Ciao utilizes an air-dielectric and purely reactive design. Ciao does not use mode suppressors or isolation resistors, thereby avoiding topology interference, heat-sinking problems, and associated losses. All units are precision machined and feature field replaceable connectors. **The design, although simple, but rugged, is made to perform within and withstand harsh environments.**

### FLEXIBLE CONFIGURATION AND PACKAGING

Ciao's design flexibility allows for a wide variety of packaging, mounting and connector configurations, including "Combined-Stacked" units in which the RPC and RPD are integrated within the same housing, reducing overall size (as seen in the photo to the left). While most of Ciao's designs are customer, all are developed around standard and previously developed design concepts, in order to meet specific electrical, mechanical, and environmental requirements. Isolators can be easily integrated into Ciao's RPC/RPD units.



## RADIAL POWER COMBINER/DIVIDER MODELS:

### PRODUCT FEATURES:

- Frequency coverage from 300 MHz to 30 GHz
- Phase and Amplitude Stable
- High Power Handling Capability  
(up to 80kW Peak, 5.7 kW CW depending upon # of N: Ways)
- High Reliability and Military Qualification
- Full Customization to Meet Customers' Exact Requirements
- Integrated Isolators Optional
- Permits "Hot Swap" Capability for Failed Amplification Modules



Model Number	Frequency Range GHz	Number of Ports (N-Way)	Insertion Loss dB(max)	VSWR In/Out (max)	RMS Amplitude Variation dB (max)	RMS Phase Variation Degrees (max)
<b>Radial Power Combiners/Dividers: 400 to 500 MHz</b>						
CWC004005-3201	0.4-0.5	32	0.25	1.4:1	0.25	2.0
CWC004005-3601	0.4-0.5	36	0.25	1.4:1	0.30	2.0
CWC004005-4801	0.4-0.5	48	0.35	1.4:1	0.35	4.0
<b>Radial Power Combiners/Dividers: 1.2 to 1.4 GHz</b>						
CWC012014-1601	1.2-1.4	16	0.25	1.4:1	0.25	2.0
CWC012014-3201	1.2-1.4	32	0.30	1.4:1	0.30	2.0
CWC012014-4801	1.2-1.4	48	0.35	1.4:1	0.35	4.0
<b>Radial Power Combiners/Dividers: 1.85 to 1.95 GHz</b>						
CWC018019-1601	1.85-1.95	16	0.25	1.4:1	0.25	2.0
CWC018019-3201	1.85-1.95	32	0.30	1.4:1	0.30	2.0
CWC018019-4801	1.85-1.95	48	0.35	1.4:1	0.35	4.0
<b>Radial Power Combiners/Dividers: 2.7 to 2.9 GHz</b>						
CWC027029-1601	2.7-2.9	16	0.30	1.4:1	0.25	1.5
CWC027029-2401	2.7-2.9	24	0.30	1.4:1	0.25	2.0
CWC027029-2801	2.7-2.9	28	0.50	1.4:1	0.30	2.0
CWC027029-3201	2.7-2.9	32	0.50	1.4:1	0.30	2.0
CWC027029-3601	2.7-2.9	36	0.60	1.4:1	0.40	4.0
CWC027029-4801	2.7-2.9	48	0.60	1.4:1	0.40	4.0
CWC027029-5001	2.7-2.9	50	0.70	1.4:1	0.50	5.0
CWC027029-6401	2.7-2.9	64	0.70	1.4:1	0.50	5.0
CWC027029-6801	2.7-2.9	68	0.70	1.4:1	0.50	5.0
<b>Radial Power Combiners/Dividers: 2.9 to 3.5 GHz</b>						
CWC029035-2401	2.9-3.5	24	0.30	1.4:1	0.25	2.0
CWC029035-3601	2.9-3.5	36	0.50	1.4:1	0.30	2.0
CWC029035-4801	2.9-3.5	48	0.60	1.4:1	0.40	4.0
<b>Radial Power Combiners/Dividers: 5.4 to 5.9 GHz</b>						
CWC054059-1601	5.4-5.9	16	0.30	1.4:1	0.25	2.0
CWC054059-2401	5.4-5.9	24	0.30	1.4:1	0.25	2.0
CWC054059-3201	5.4-5.9	32	0.50	1.4:1	0.30	2.0
CWC054059-4801	5.4-5.9	48	0.60	1.4:1	0.40	4.0
<b>Radial Power Combiners/Dividers: 5.9 to 6.4 GHz</b>						
CWC054064-1601	5.9-6.4	16	0.30	1.4:1	0.25	2.0
CWC059064-2401	5.9-6.4	24	0.30	1.4:1	0.25	2.0
CWC059064-3601	5.9-6.4	36	0.50	1.4:1	0.30	2.0
CWC059064-4801	5.9-6.4	48	0.60	1.4:1	0.40	4.0
<b>Radial Power Combiners/Dividers: 10.0 to 10.7 GHz</b>						
CWC100107-1601	10.0-10.7	16	0.30	1.4:1	0.25	1.5
CWC100107-2401	10.0-10.7	24	0.30	1.4:1	0.25	2.0
CWC100107-3201	10.0-10.7	32	0.50	1.4:1	0.30	2.0
CWC100107-3601	10.0-10.7	36	0.50	1.4:1	0.30	2.0
CWC100107-4801	10.0-10.7	48	0.60	1.4:1	0.40	4.0
CWC100107-5001	10.0-10.7	50	0.60	1.4:1	0.40	4.0
CWC100107-6401	10.0-10.7	64	0.70	1.4:1	0.50	5.0
CWC100107-6801	10.0-10.7	68	0.70	1.4:1	0.50	5.0

All of the above models can be modified to meet your exact frequency, n:ways, insertion loss and phase/amplitude specification.  
Please visit our web site for a complete listing of all models.

4000 Via Pescador / Camarillo, CA 93012 / Phone: (805) 389-3224 / Fax: (805) 389-3629  
[www.ciaowireless.com](http://www.ciaowireless.com) / e-mail: [sales@ciaowireless.com](mailto:sales@ciaowireless.com)



**SPACE QUALIFIED FILTERS, MULTIPLEXERS, HYBRIDS, AND COUPLERS  
FOR LONG-LIFE MISSIONS AND HI-RELIABILITY APPLICATIONS**

**GENERAL OVERVIEW**

Ciao Wireless, Inc, through the acquisition of the Thetawave division of Microwave Communications Corporation (MCCI) of Valencia, CA, also specializes in the design and manufacture of Space Qualified and Hi-Rel Passive components, including Filters, Radial Power Combiners & Dividers, Multiplexers (including Diplexers, Triplexers, etc.), Hybrids, and Couplers.

Ciao Wireless, combines its over 100-man-years of RF and Microwave expertise in design, manufacturing, and management in conjunction with a solid balance sheet to continue the extensive Space and Hi-Rel Military Qualification Work and Heritage that MCCI, Inc. had previously established. Through the relocation of MCCI's Thetawave Division to Ciao Wireless' modern and fully equipped manufacturing facility in Camarillo, CA, and enhancing the product portfolio to ensure the continued success of this product line, Ciao Wireless is uniquely qualified to meet all of your Space & Hi-Rel Passive Product requirements and Environmental Testing needs.

**ENVIRONMENTAL TESTING SERVICES**

In addition to the Passive Components product line, Ciao Wireless also maintains an independently operated within its facility. The Ciao Wireless environmental lab contracts services such as Random and Sinusoidal Vibration, Shock, Thermal Shock, Thermal Vacuum and Multipaction Corona Testing, Temperature Testing, including Temp Cycling, Highly Accelerated Life Testing (HALT), and Highly Accelerated Stress Screening (HASS), and High Power Testing. While this laboratory serves all customers, it is especially convenient for those businesses located in Ventura County, CA who normally have to drive to the Valley or Los Angeles to do their testing.

**EXTENSIVE SPACE HERITAGE:**

Ciao products have performed on many "high profile" Missions including:

- MARS PATHFINDER
- MERCURY MESSENGER
- TITAN
- STEREO & NEW HORIZONS
- PAN AM SAT
- DIRECT TV-7
- SBIRS & MANY MORE



Ciao Wireless' Passive Filter Product Line includes customized and standard designs to meet your every need. Designs start from UHF Bands, through the Radar and Communications Bands and RF & Microwave Frequencies up through Millimeter Wave Bands up to 65 GHz, with various mounting, connector, and packaging concepts available.

COAXIAL & WAVEGUIDE CONFIGURATIONS:	CIAO FILTER PERFORMANCE CAPABILITY:
<ul style="list-style-type: none"> <li>• High &amp; Low Pass</li> <li>• Band Pass &amp; Band Reject</li> <li>• Ceramic</li> <li>• Compline</li> <li>• Interdigital</li> <li>• Elliptical</li> <li>• Multiplexers</li> </ul>	<ul style="list-style-type: none"> <li>• Frequency Coverage up to 65.0 GHz</li> <li>• Rejection Levels &gt; -130 dB</li> <li>• High Power Level Capability (&gt;5 kW)</li> <li>• Intermodulation Products up to 120 dBm</li> <li>• Phase Matching to &lt; 3 Deg Absolute</li> <li>• Space &amp; Hi Rel Application Qualification</li> <li>• Customized to meet you exact requirements</li> </ul>

# Ciao Wireless Capability Summary:

## GaAs FET Microwave Amplifiers:

Frequency Coverage over 30 kHz to 30 GHz, Including Octave and Octave Plus Bands, Broadband and Ultra-Broadband Units, Narrow band Communication, Radar & Satcom Bands, Limiting Amplifiers, Low Noise and Power Designs

### OCTAVE, BROADBAND, ULTRA-BROADBAND & LIMITING: Simulators, EW Equipment, Test Equipment, Telecom & Lab Use:

- 30 kHz to 30.0 GHz
- Small Signal and Low Noise
- Medium Power to +20 dBm
- High Power to 2-Watts
- Low Phase Noise
- Customized Designs for All Spec Parameters
- Delivery in 2-4 Weeks ARO Standard

### NARROW BAND RADAR & COMMUNICATION: Airborne, Shipboard, Ground Systems, TWT Drivers, Receivers/Transmitters:

- 50 mHz to 30 GHz in Standard Comm Bands
- Low Noise Figures (As low as 0.35 dB)
- Medium Power to +27 dBm
- High Power to 5-Watts
- Variable Gain, TTL, Input Limiter Protection
- Customized Designs for all Spec Paramters
- Delivery in 2-4 Weeks ARO Standard

### RADIAL POWER COMBINERS/DIVIDERS: Transmitters, High Power Amplifiers

- 400 mHz to 20 GHz
- N-Ways Offered up to 100:1
- Phase Stable (2 Deg RMS)
- Amplitude Stable (0.25 dB RMS)
- Integrated Isolators
- Low Insertion Loss (<0.25 dB)

### SPACE QUALIFIED FILTERS & PASSIVE COMPONENTS: Satellites & Exploratory Missions

- Filters, Multiplexers, Hybrids, Couplers
- Customized Designs for all Spec Parameters
- Mission Qualified and Full ESS Testing
- Waveguide & Coaxial
- Low Loss & High Isolation



**Ciao Wireless, Inc.**

4000 Via Pescador • Camarillo, CA 93012

**Tel (805) 389-3224**

Fax (805) 389-3629

**[www.ciaowireless.com](http://www.ciaowireless.com)**

**E-mail [sales@ciaowireless.com](mailto:sales@ciaowireless.com)**